RAIL TRANSIT REVIEW & OUTLOOK

January 11, 1971

RAILWAY AGE

1971

Year 1 of the Transit Revolution

DOT's John A. Volpe and Carlos Villarreal inspect a Washington Metro "dig"

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ASEA thyristor-controlled commuter trains have run regularly for three years in the Greater Stockholm area, including two extremely cold winters with lots of powdery snow. They require no "winterization." ASEA has also supplied 650 conventional subway cars for Stockholm. . . with more to come.

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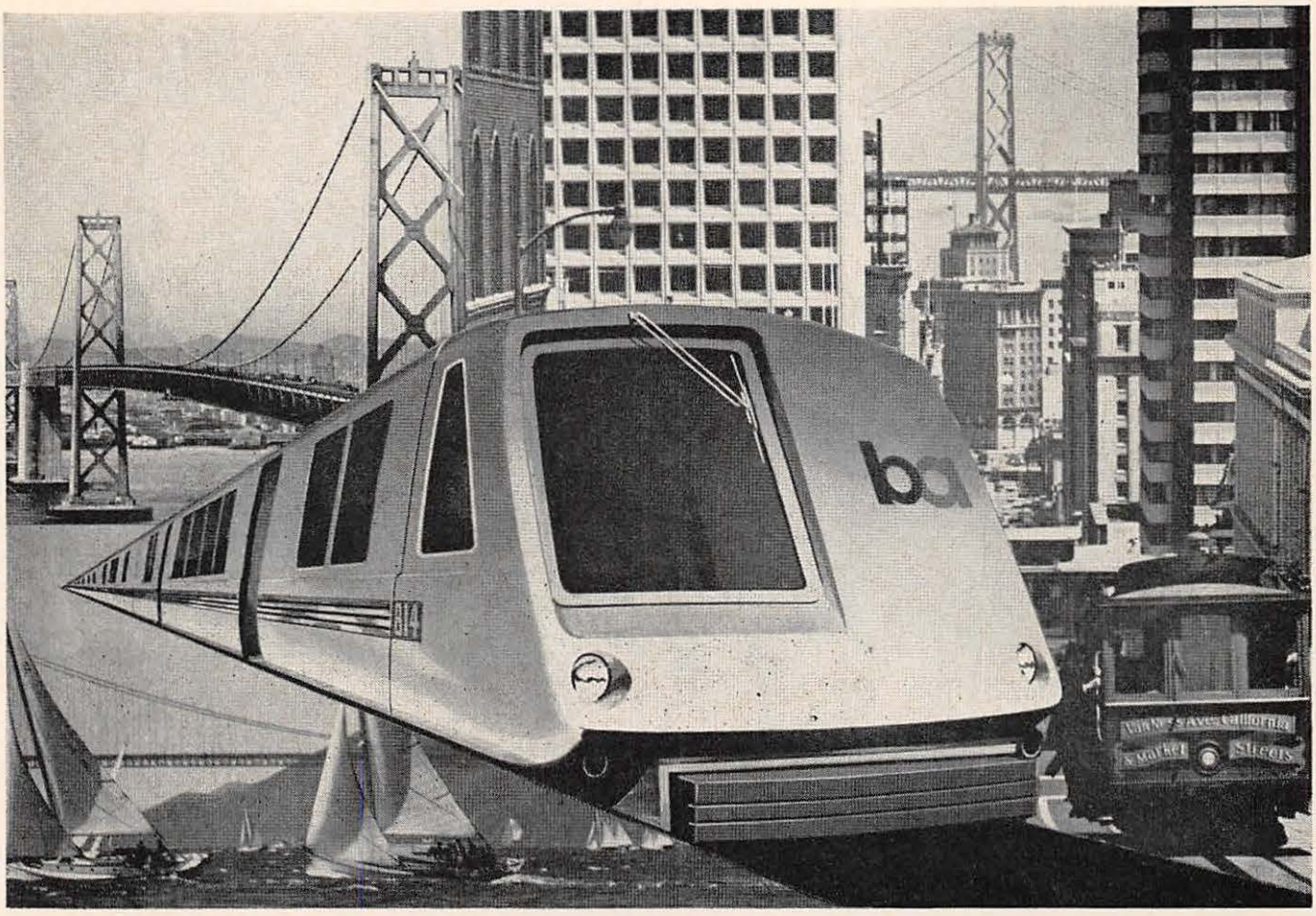

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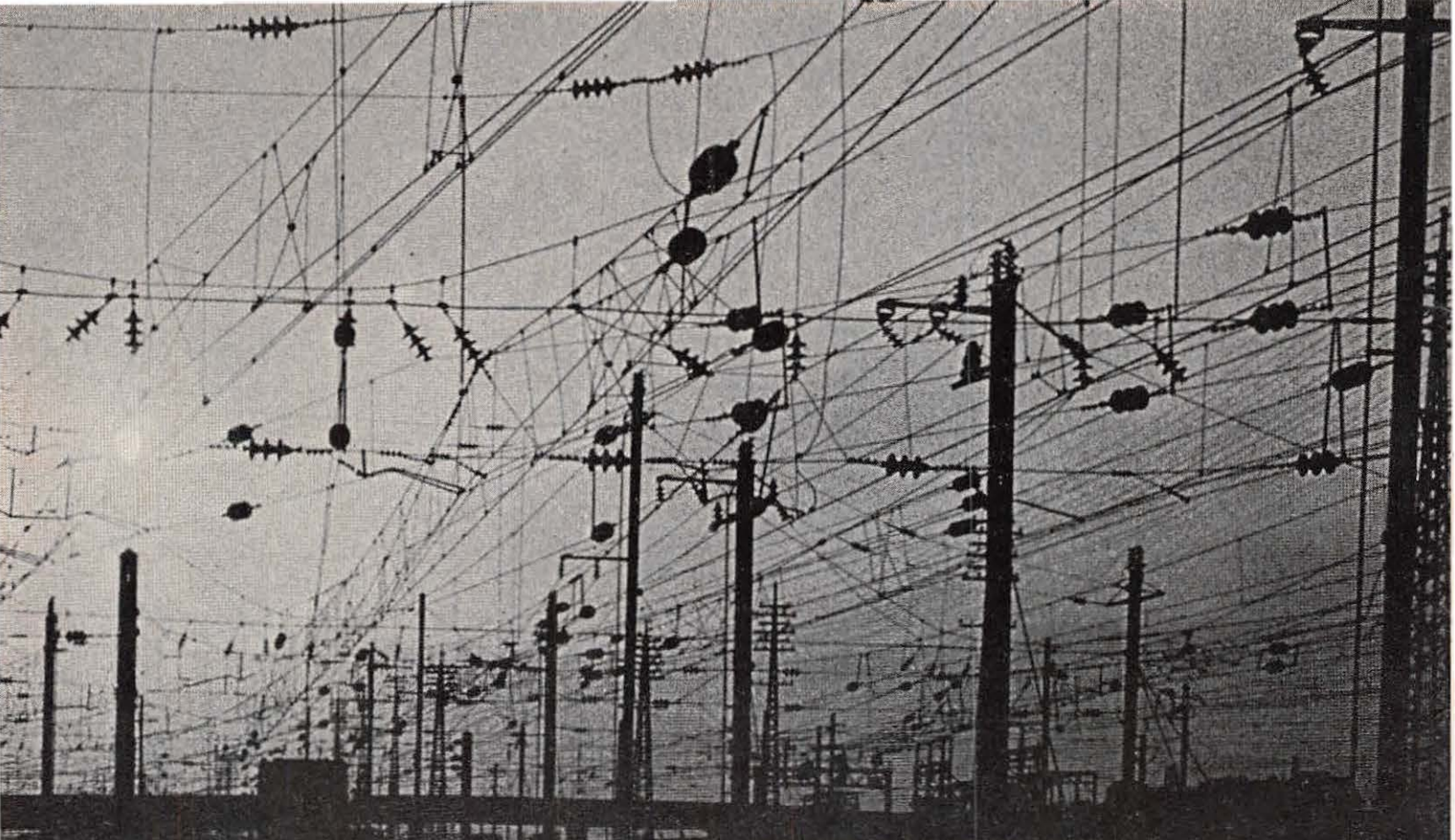

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Inside

LUTHER MILLER

CRYSTAL-BALL GAZING

In the best of times, market-forecasting is risky. In the worst of times, it is nothing short of perilous. But crystal-ball gazing is a chore that no self-respecting magazine can avoid at the beginning of a New Year. So with the current issue we take the plunge—and predict that 1971 will be the year that America finally goes to market, in a big way, for rail transit. The series of stories beginning on page 22 suggests that, before all is said and dug, the transit market will prove to be a bonanza worth $20-to-$33 billion.

As for the line-haul railroad market, our predictions will come in our Yearbook issue due Jan. 25. It can already be said that while these predictions will not be entirely rosy, they will be less apocalyptical than those which have recently been peddled in some quarters.

MATES GETS HIS MAN (SEE FRONT COVER)

A good photographer, like a good Mountie, always gets his man. Railway Age Art Director Maurice Mates is a good photographer—and he got his man for this issue's front cover. But it took some doing. On a recent chill December Monday morning, Mates air-shuttled to Washington and set up lights and camera at D and 4th Streets, the site of an early D.C. Metro "dig." With Washington Editor Reid Beddow and a small army of DOT and Metro public relations men, Mates waited for the cover subject—DOT Secretary John A. Volpe—to turn up. And waited. And waited.

Volpe did not show. He was up to his ears in a fast-developing railroad strike crisis (and an SST crisis and a Coast Guard crisis and a Railpax crisis). There are times when even the press must bow to the pressures of the White House and Congress. Mates air-shuttled back to New York—but not before Volpe urged, through an intermediary, "Come back Thursday."

So on a chill December Thursday morning, Mates (a Metroliner partisan who always takes out air insurance when the exigencies of the situation force him aloft) air-shuttled back to Washington. As it turned out, Volpe had been up nearly all night helping resolve the railroad strike that had, in fact, developed. This time Volpe did show for the picture taking, along with his urban mass transportation chief, Carlos Villarreal.

Mates is now convinced (as Railway Age editors long have been) that John Volpe, a former highway builder, is now truly dedicated to spreading the mass-transit gospel. Otherwise, reasons Mates, why would he have gone to all that trouble, in the cold dawn of another crisis day, to get his picture taken for a transit issue of Railway Age?

The stories on "Year 1 of the Transit Revolution" in this issue suggest that Mates' confidence is not misplaced. Would that we could be as certain of the dedication of the White House to the cause (see page 56).

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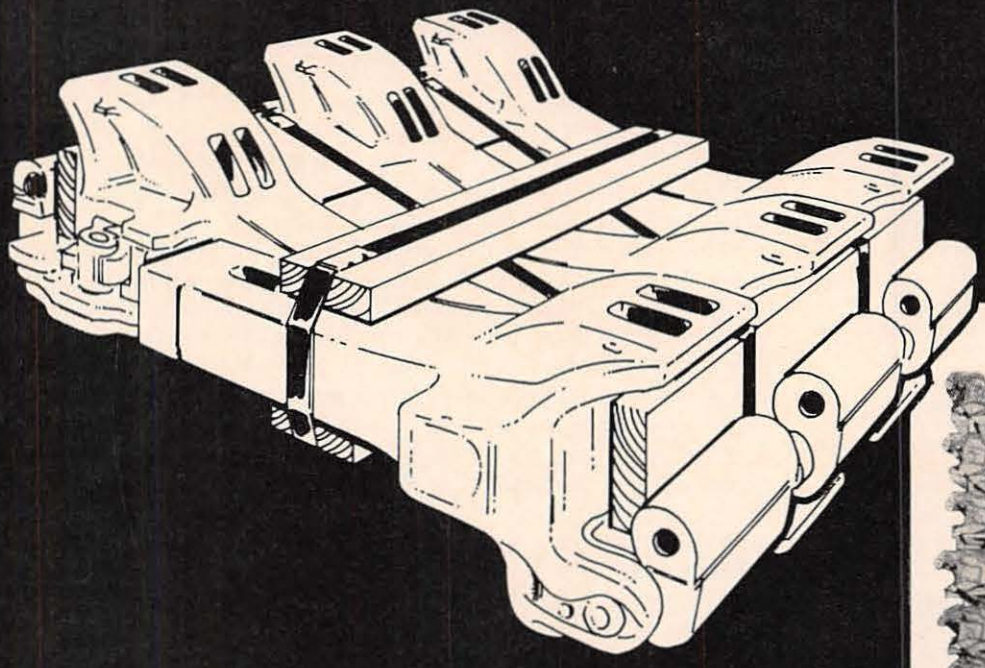

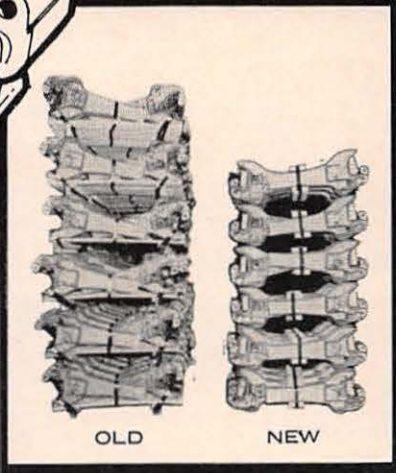

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NEWS

EQUIPMENT — 1971 spending forecast at $1.56 billion ..... p. 8
Penn Central will invest $272.6 million ..... p. 8
Santa Fe boosts '71 capital spending ..... p. 18
100 diesels, 1,471 cars on BN's list ..... p. 18
N&W announces $100-million program ..... p. 20
Freight-car orders rise ..... p. 8
FINANCIAL — Congress approves loan guarantees ..... p. 19
C&O/B&O net income increases ..... p. 8
Long Island's 1970 loss: $25.1 million ..... p. 8
TRANSIT — St. Louis gets transit-study funds ..... p. 8
Chicago's five-year needs: $102.3 million ..... p. 15
THE INDUSTRY — John W. Barriger named to head B&M ..... p. 19
Legislative goals set by RLEA ..... p. 17
Railroads in '70: More downs than ups ..... p. 15
ICC and NARP propose Railpax changes ..... p. 16
Soo proposes new central-agency plan ..... p. 19

FEATURES

TRANSIT — 1971—Year 1 of the transit revolution ..... p. 23
BART will roll in '71; Washington digs—who's next? ..... p. 24
Applications for rail-related grants total $2 billion ..... p. 26
Capital requirements in next 12 years are $33 billion ..... p. 28
ENGINEERING — "We must assign substantial priority to research" ..... p. 32
Laser beam increases accuracy of track alignment ..... p. 36

COMMENT

INSIDE — Crystal-ball gazing ..... p. 5
LINES ON LABOR — The company publication: What is it worth? ..... p. 20
VIEWPOINT — Nixon: A doer? Or just another talker? ..... p. 56
WATCHING WASHINGTON — The ICC takes a look at Railpax ..... p. 17

DEPARTMENTS

Bookshelf ..... p. 42
Market Outlook ..... p. 53
New Products ..... p. 51
People in the News ..... p. 43
Supply Trade-Transit ..... p. 46
View from the Street ..... p. 60

Short and Significant

EQUIPMENT

'71 SPENDING FORECAST: $1.56 BILLION

A government survey estimates that $1.56 billion will be invested in new railway equipment and facilities in 1971. This would be a decline of 14.7% from the $1.83 billion invested in 1970. The survey, conducted by the Office of Business Economics (Department of Commerce) and the Securities and Exchange Commission, forecasts a rise of 1.5% in capital spending for all U.S. business in 1971, to approximately $81.7 billion.

PENN CENTRAL WILL INVEST $272.6 MILLION

Penn Central plans to spend $272.6 million in 1971 on capital improvements, trustees said in a Dec. 31 statement. A total of $198 million will be spent for rehabilitation and purchase of 27,500 freight cars and 269 locomotives. Road and yard projects will get $74.6 million. (In their recent statement to Congress, trustees of the bankrupt carrier noted that they were able to finance equipment purchases; the big cash problem is covering operating deficits.)

FREIGHT-CAR ORDERS RISE SHARPLY

Railroad and private carlines ordered 8,164 new freight cars in November 1970—a sharp increase over October's 3,053. This brought orders for 11 months of 1970 to 41,568. Indications are that new-car orders for the entire year were close to 50,000. Backlog of new cars on order and undelivered on Dec. 1, 1970, rose to 23,644 from 20,049 on Nov. 1, according to the AAR.

EARNINGS

C&O/B&O EARNINGS UP

The affiliated Chesapeake & Ohio/Baltimore & Ohio have reported net income of $52.9 million for 1970, up from 1969's $52.5 million. The flash report, first in the industry, noted that operating revenues rose from $874 million to $932 million.

LONG ISLAND'S '70 LOSS: $25.1 MILLION

The publicly-owned Long Island maintained its record in 1970 as the nation's busiest passenger railroad, hauling 260,000 riders daily—but it did so at an operating loss of $25.1 million. LIRR's 1971 loss is estimated at $43.3 million.

TRANSIT

ST. LOUIS GETS TRANSIT-STUDY FUNDS

A 12-month study of a proposed 82-mile rapid transit system for the St. Louis metropolitan area will be financed by a $146,666 grant from DOT's Urban Mass Transportation Administration and $73,334 in local funds. The new study will examine socio-economic implications of the system. Another study looked at technical and engineering aspects.

UITP PLANS 39TH CONGRESS IN ROME

The International Union of Public Transport (UITP), the world-wide association of transit operators, will hold its 39th international congress in Rome, May 2-8. The biennial sessions of UITP, which is headquartered in Brussels, bring together urban transportation experts from Europe, the Americas, Asia and Australia.

TRAFFIC

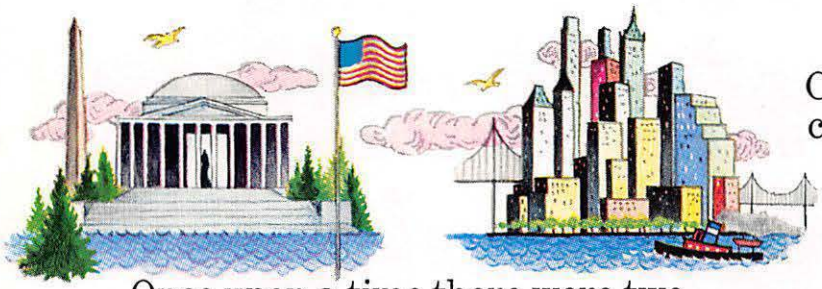
CHEMICAL TRAFFIC DUE TO RISE

The chemical industry is anticipating a 5% increase in shipments in 1971, reports the Manufacturing Chemists Association. Thirty-two companies polled by MCA agree that a turnaround in the national economy will begin to be felt in the first half and accelerate in the second half of 1971. In 1970, shipments were valued at $50 billion.

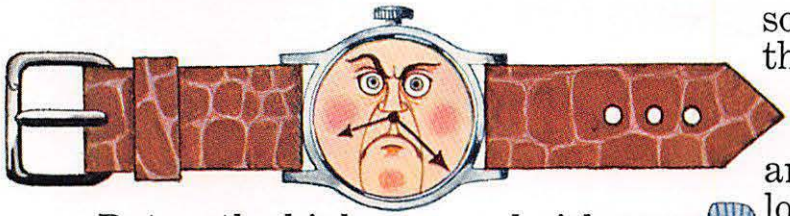
COAL-HAUL TRAFFIC TO DOUBLE BY '90

A report published by the National Coal Policy Conference early in the New Year contained bullish projections for coal-hauling railroads. NCPC says the use of coal to generate electric power will have to increase by nearly 50% by 1980, and have to more than double by 1990 if the nation is to meet its power needs.

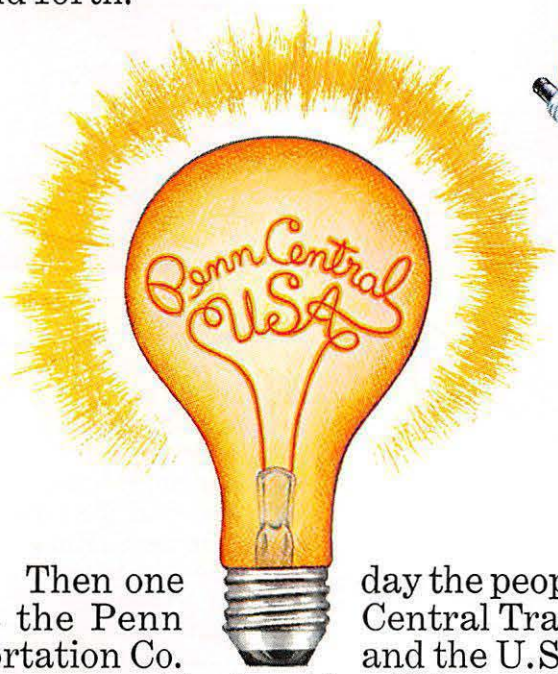
The little Metroliner that could.



Once upon a time there were two cities called New York and Washington. The people in these cities loved to visit each other, and their cousins in Philadelphia and Baltimore, too.

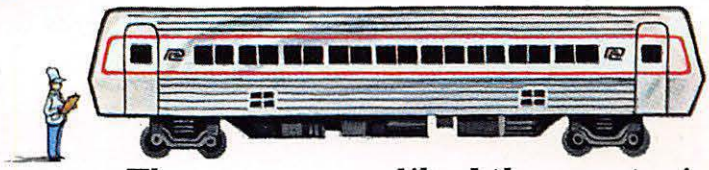


But as the highways and airlanes got more and more crowded, it took more and more time to get back and forth.

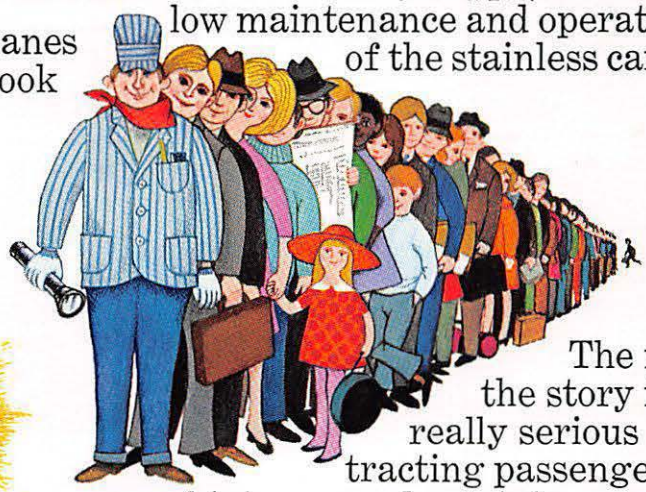


Then one day the people at the Penn Central Transportation Co. and the U.S. government had an idea. Why not improve the roadbed and run high-speed passenger trains between the cities?

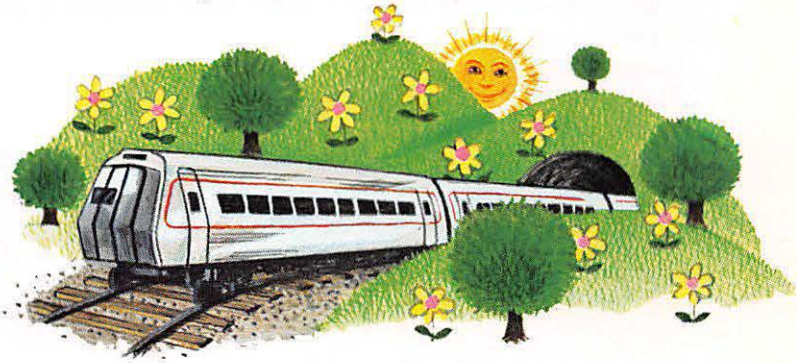
So they got to work, and the Budd Company built a set of shiny new trains called Metroliners. Naturally, they used nickel stainless steel so the cars would be beautiful, corrosion-resistant, strong, and lightweight.



The passengers liked the new trains so much that they often bought up all the reserved seats, days in advance. The trainmen were very proud to work on Metroliners. And the railroad accountants were very happy, because of the low maintenance and operating costs of the stainless cars.

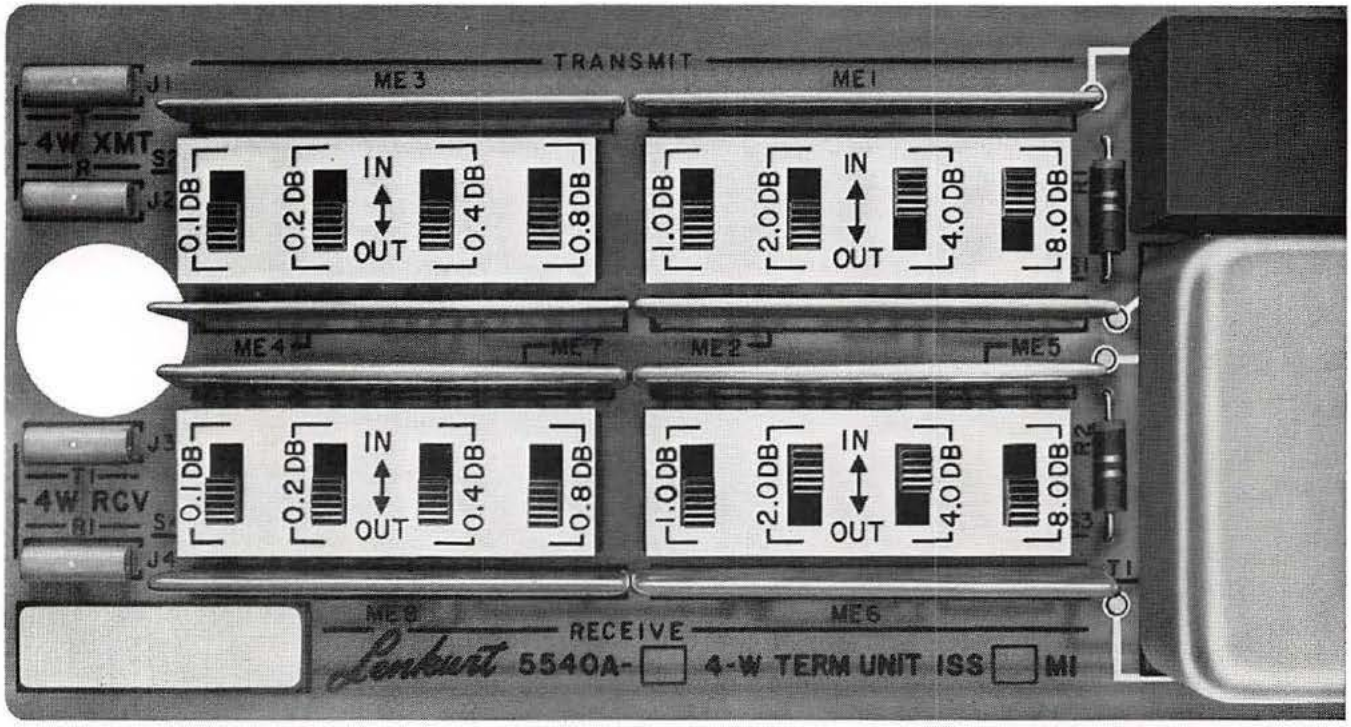


The moral of the story is, if you're really serious about attracting passengers, use a shining, speedy stainless steel train. And then you can add your chapter to the story of trains that could.

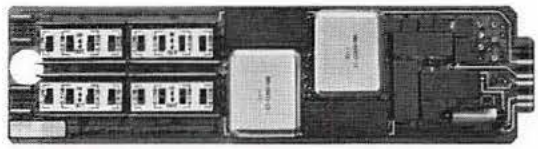


For more information on nickel stainless steel for railway and transit cars, write to The International Nickel Company, Inc., One New York Plaza, New York, N.Y. 10004. In Canada, The International Nickel Company, Limited, P.O. Box 44, Toronto-Dominion Centre, Toronto 111, Ontario. INTERNATIONAL NICKEL

Lenkurt's new $65 four-wire term set for people who'd rather switch than fight.



Now you don't need to fight a huge inventory of extra pads when you want to make adjustments. Flick a few switches, and it's done.



On our new 5540A four-wire term set, we've replaced the traditional resistor pads with a series of switches with gold-flashed contacts. With these switches you make loss adjustments from 0 to 16.5 dB in 0.1 dB steps. Thereby meeting future network requirements. And notice the price: $65.

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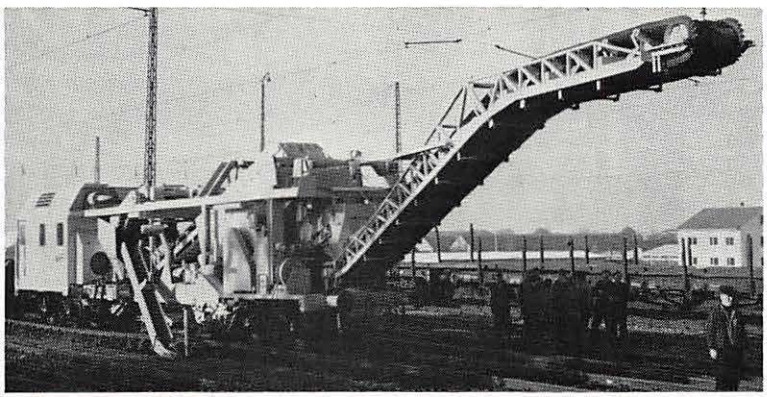

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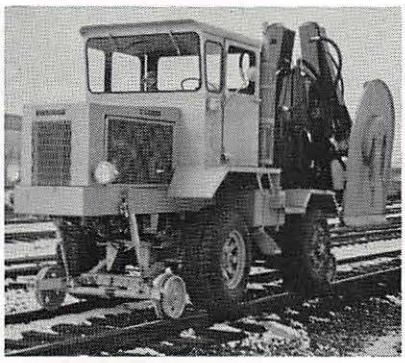

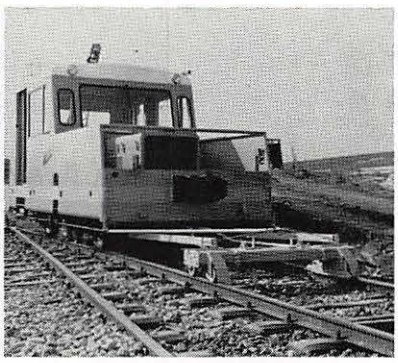

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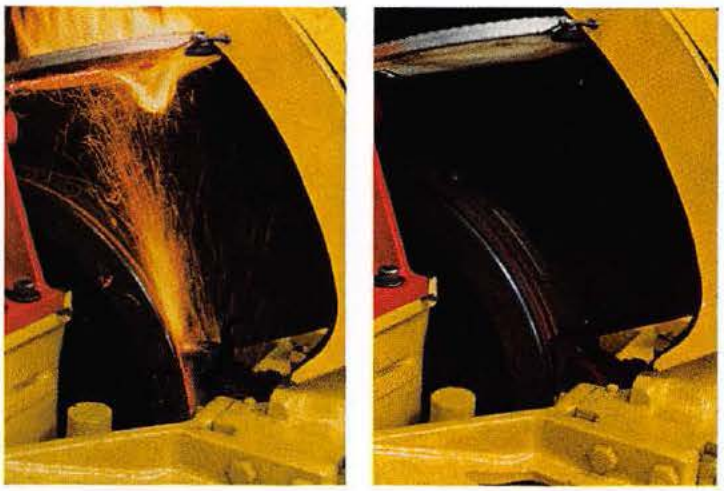
ABEX ANNOUNCES THE NEW SAMSON SHOE.

A revolutionary concept in metal brake shoe technology designed to upgrade braking standards throughout the country.

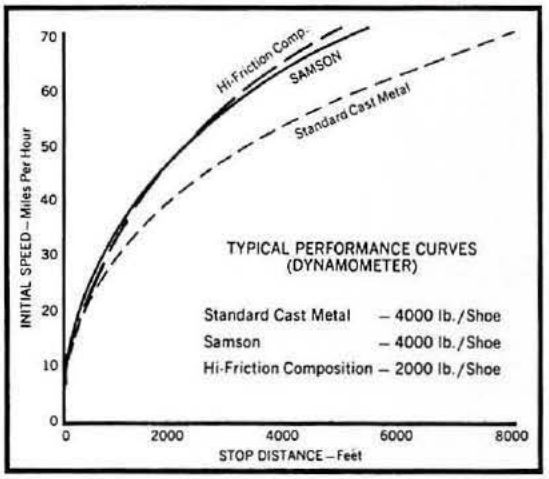
The Samson Shoe does not burn, or spark excessively.

These unretouched photos compare sparking of a standard metal brake shoe (left) and our new Samson Shoe (right) during a 100 mph emergency stop under extreme braking conditions. Tests were conducted on the world's largest double-ended dynamometer at our research center.



These unretouched photos compare sparking resulting from braking on long, steep grades. The standard metal brake shoe (left) after approximately seven minutes on our dynamometer. At right, the Samson Shoe after 60-minutes of the same test.

The Samson Shoe provides improved train control.



Today's heavier, faster freight trains are harder to slow down and stop.

Above chart shows typical performance curves of stop distance versus initial speed for Samson, standard metal, and composition shoes. The curves shown for Samson and Composition Shoes illustrate how braking performance can be upgraded on mix-consist trains throughout the country by replacing standard metal shoes with Samson Shoes. Dynamometer tests show the Samson Shoe will reduce stop distances approximately 30% at speeds of 40 mph or greater. Actual stop-distance tests conducted on a western railroad, showed the Samson Shoe shortened stop distances 32% with fully loaded coal trains on a 1% descending grade.

The Samson Shoe offers increased life.

BRAKE SHOE CHANGE-OUTS	Std. Cast Metal	SAMSON
Average Cars in Consist	75	79
Average Tons/Oper. Brake	115	115
Average Number of Shoes Changed Per Round Trip	207	98

Above chart shows a two to one life advantage of Samson Shoes over standard metal shoes on a full-train test conducted by a leading railroad. Figures show actual shoe consumption, per trip, obtained from more than ten round trips on a western railroad unit coal train.

The new Samson Shoe offers a variety of performance advantages, any or all of which might be a major solution to problems you are facing on your railroad today. We invite you to field test the Samson Shoe on your equipment. Contact your local Abex representative for details.

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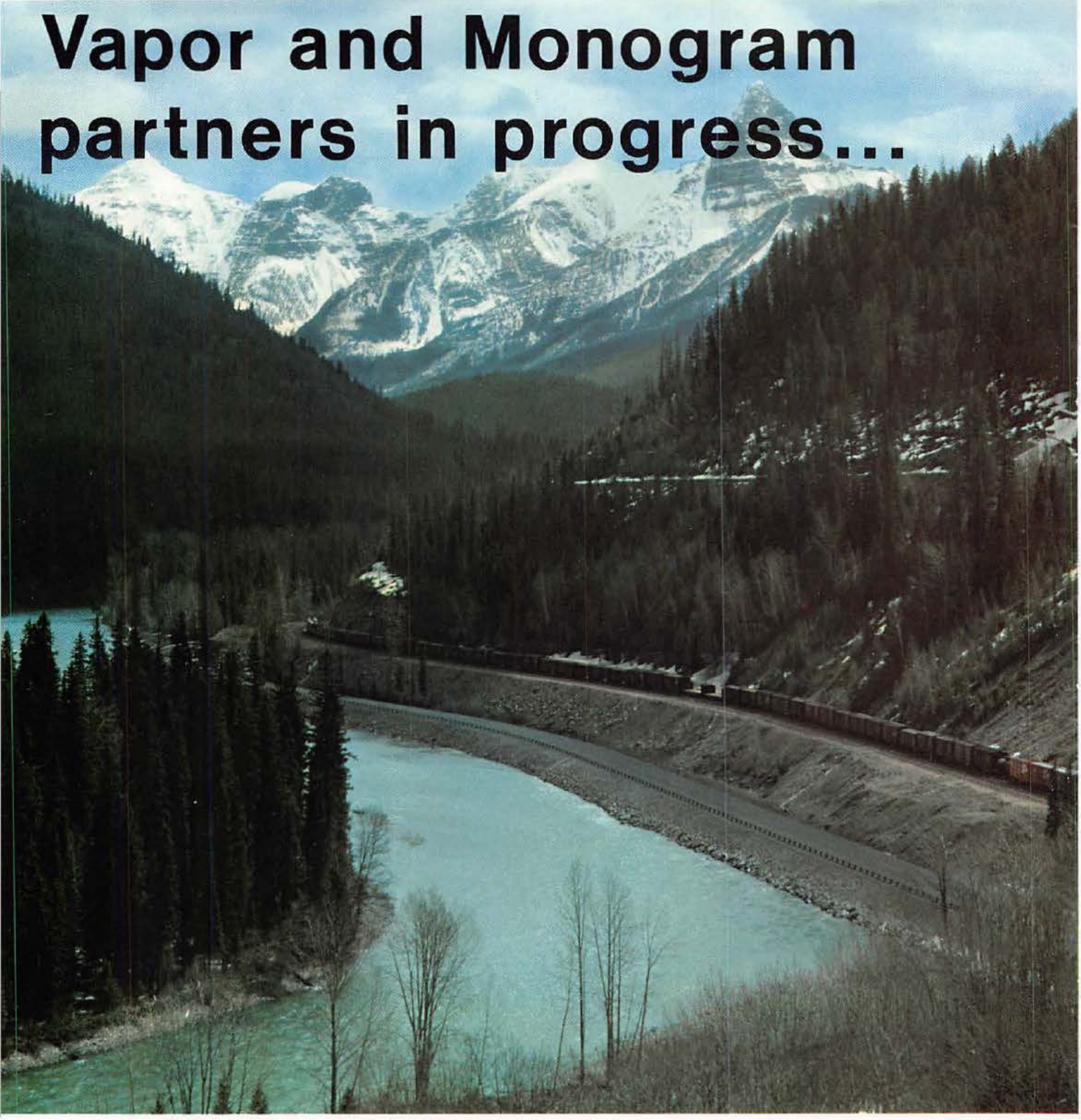

Continental Divide in the Montana Rockies—Photo courtesy of Burlington Northern

Extensive research indicated to Vapor that those of you concerned in transportation are looking for innovative ideas to cope with new in-transit sanitation needs. With this in mind, Vapor searched the transportation industry for a product able to meet or exceed surface transportation toilet requirements.

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The Monogram New-matic is a self-contained, revolutionary-new, air-operated toilet with only one moving part. With only one moving part it **has** to be trouble-free. Problems associated with electric motors, switches and timers, are eliminated. It's fully automatic, ready to re-use in less than ten seconds. And, it is already proved dependable through constant use in rugged transportation service.

Our eagerness to meet the high standards of performance for transportation products has lead Vapor into the marketing of this new product.

Vapor's understanding of your transportation needs, coupled with our unique marketing and service capabilities throughout the United States and Canada; plus Monogram Industries' reputation as the world's largest manufacturer of re-circulating toilet systems, assures you of the best product available.

You might call us partners for progress —Progress that provides you with the finest in re-circulating toilets.

Write the Transportation Systems Division, Vapor Corporation, 6420 West Howard Street, Chicago, Illinois 60648. In Canada, Vapor Canada Limited.

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RAILWAY AGE NEWS

Railroads in '70: More downs than ups

Railroads last year had their ups and downs—but the latter predominated. An AAR report issued Dec. 31 shows that freight traffic for the 52 weeks ended Dec. 26 amounted to 761 billion ton-miles, a drop of 0.9% from the record 768 billion ton-miles racked up in 1969. There was a slightly greater drop in carloadings, which totaled 27,160,247 in 1970, down 3.8% from the 28,237,407 cars loaded in 1969.

Revenue-freight piggyback loadings for the first 51 weeks of 1970 totaled 1,246,911 cars, 6% below the 1969 figure, and 2,045,306 trailers or containers, down 6.4%. In addition to freight, 187,772 cars carrying 283,720 trailers or containers of mail and express traffic were handled piggyback in the first 51 weeks—down 2.2% and 2.9%, respectively.

An earlier AAR report (RA, Dec. 28, 1970, p. 21) noted that while railroad ton-miles declined in 1970, railroad operating revenues had reached an all-time high of $12 billion, due to series of rate increases.

CARLOADINGS BY COMMODITIES: 1970 vs 1969

	1970	1969		Incr. or Decr. 1970 vs. 1969 Cars	%
Grain	1,467,937	1,280,667	I	187,270	14.6
Other farm products	827,723	894,521	D	66,798	7.5
Metallic ores	1,952,676	2,031,076	D	78,400	3.9
Coal	5,163,384	5,152,549	I	10,835	0.2
Crushed stone, gravel and sand	1,457,355	1,556,347	D	98,992	6.4
Nonmetallic minerals	506,866	541,400	D	34,534	6.4
Grain mill products	993,370	1,042,630	D	49,260	4.7
Food and kindred products	1,301,146	1,263,109	I	38,037	3.0
Primary forest products	1,297,428	1,301,593	D	4,165	0.3
Lumber and wood products except furniture	741,911	796,154	D	54,243	6.8
Pulp, paper and allied products	1,195,632	1,253,127	D	57,495	4.6
Chemicals and allied products	1,415,296	1,481,963	D	66,667	4.5
Petroleum products	536,327	599,242	D	62,915	10.5
Stone, clay and glass products	1,002,673	1,101,187	D	98,514	8.9
Coke	433,171	436,573	D	3,402	0.8
Metals and products	1,360,968	1,479,615	D	118,647	8.0
Motor vehicles and equipment	960,451	1,157,375	D	196,924	17.0
Waste and scrap materials	741,956	755,151	D	13,195	1.7
Forwarder and shipper association traffic	360,862	380,084	D	19,222	5.1
All other carloads	3,396,361	3,637,751	D	241,390	6.6
LCL traffic	46,754	95,293	D	48,539	50.9
Total Cars Loaded	**27,160,247**	**28,237,407**	**D**	**1,077,160**	**3.8**

South Chicago's five-year transit needs put at $102.3 million

An expenditure of $102.3 million over a five-year period to improve and coordinate public transportation systems in the southern quadrant of the huge Chicago metropolitan area was recommended in a report released last month by the Southward Transit Area Coordination Committee (STAC). Participating in the two-year study of the heavily populated Illinois and Indiana counties bordering the tip of Lake Michigan were five public agencies, four bus companies, the Chicago Transit Authority and five railroads—Chicago South Shore & South Bend, Rock Island, Illinois Central, Penn Central and Norfolk & Western (the latter acting as an observer only).

If the STAC study should be accepted and public financial support followed, here are some of the more important rail commuter improvements which could take place over the next five years:

CSS&SB—Add 30 to 34 new electric m-u cars costing $9 million. Lease for a two-year period, at a total cost of $2.2 million, electric m-u cars from the IC. Also, spend $2.15 million for station, platform and electrical system improvements.

Rock Island—Acquire 50 bi-level push-pull coaches costing $11.3 million, and convert eight to 10 diesel-electric locomotives for push-pull operation, at a cost of $400,000. And, spend another $1.5 million for track and station improvements.

Illinois Central—Order 25 more bi-level electric m-u cars, costing $8.1 million, similar to the 130 cars now on order and scheduled for delivery starting next month. Also, spend $3.75 million on track improvements and extensions and on station and signaling facilities.

Penn Central—Acquire six bi-level push-pull coaches, costing $1.25 million, plus two road switchers and one re-built unit equipped for push-pull operation.

Cost estimates, as the report emphasized, are based on 1969 unit costs.

The comprehensive STAC study, called the first of its type ever conducted in this country, also recommended that $38.7 million be spent in the next five years for CTA improvements, mainly for the purchase of about 1,000 buses. The report said another $9.8 million should be spent on equipment for four suburban bus lines operating in the area studied.

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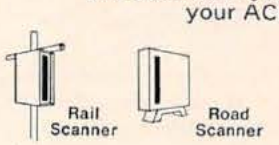

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NEWS

ICC and NARP propose Railpax changes

The Interstate Commerce Commission says it "agrees generally" with the Railpax routes proposed by the Department of Transportation but considers six modifications "necessary to the over-all success of a viable railroad passenger network." In a separate comment on DOT's proposal to provide service linking 16 basic "city pairs" when the National Rail Passenger Corp. assumes responsibility for intercity passenger trains on May 1, the National Association of Railroad Passengers called the DOT plan "reasonable"—but said it "contains some serious omissions, particularly of certain high density corridors and feeders to the routes selected."

In a letter to DOT Secretary John A. Volpe, ICC Chairman George M. Stafford proposed these modifications:

"1. We urge preservation of rail passenger service along the West Coast between Seattle and San Diego. Service over this fast-growing corridor would link some of the nation's largest metropolitan areas between which a tremendous amount of intercity travel occurs. If successful, it could greatly contribute to the alleviation of the notorious highway congestion and air pollution problems of this region.

"2. We think it essential that rail passenger service linking the South and Southwest with the West be maintained, as at present, on a thrice-weekly basis between New Orleans and Los Angeles. Omitting service across the southern tier, the preliminary designation effectively precludes transcontinental passenger service for the entire Southeast as well as for millions living in or near the numerous large cities of the Southwest such as Beaumont, Houston, San Antonio, El Paso, Tucson and Phoenix.

"3. Trains between Chicago and San Francisco should run over the 'Feather River Canyon' route of Western Pacific between Salt Lake City and San Francisco, and the 'Rocky Mountain' route of the Denver & Rio Grande Western between Denver and Salt Lake City. This routing will not only assure the continuance of a uniquely scenic travel experience, but also will assure continued service at Denver and Salt Lake City.

"4. Washington and Chicago should be linked by direct through rail service, so that the nation's capital could be directly and conveniently accessible by rail from midwestern and far western points. This is the kind of route which, under current highway and airway congestion problems, could well regain a substantial clientele of business travelers.

"5. Trains between Chicago and Seattle should be designated to run via St. Paul-Minneapolis with specified stops at the Twin Cities. Otherwise, it is possible, under the preliminary designation, for those trains to be routed over another corridor, completely depriving the states of Wisconsin, Minneapolis, North Dakota, and Montana of rail passenger service.

"6. The Tampa-St. Petersburg area should not be left without rail passenger trains. This part of Florida generates comparatively heavy vacation travel and is inhabited by many older retired people for whom train travel is a virtual necessity. Since you have designated routes along the east coast of Florida, our proposal would involve a relatively short extension of already recognized routes."

NARP recommended inclusion of four high-density corridors—San Diego-Los Angeles, Los Angeles-San Francisco, Portland-Seattle and Chicago-Milwaukee. The association, a nonprofit consumers' organization headed by Anthony Haswell, also proposed feeder services to routes previously selected by DOT.

In addition, NARP asked DOT to specifically designate intermediate cities to be served by trains operated between the end-point cities.

The NARP reported listed a number of additional routes over which it recommended that Railpax voluntarily operate service for at least one year, to determine whether their continued operation could be justified.

Altogether, DOT as of last week had received more than 100 comments on its proposed routes. One came from New York Gov. Nelson Rockefeller, who asked that the network include direct links between Boston and Albany and New York and Montreal. DOT's final system will be anounced this month.

Legislative goals set up by RLEA

Top item on the 1971 legislative program of the Railway Labor Executives' Association appears to be Congressional creation of a "U. S. Emergency Railroad Commission," which could consider (among other things) railroad nationalization in whole or in part, development of new sources of capital for railroads, and "changes in the Railway Labor Act to promote better labor relations in this industry and to expedite the handling of major and minor labor disputes."

The commission, under RLEA's proposal, would include representatives of Congress, the Executive branch, rail management, rail labor, shippers and passengers.

Other RLEA legislative proposals call for (1) restructuring the Railroad Retirement tax program from the present 50-50 employer-employee split to a 75%-employer, 25%-employee basis; (2) increasing benefits and employer-paid taxes under the Railroad Unemployment and Sickness Insurance system; (3) developing the national transportation policies called for in the original mandate to the Department of Transportation.

In addition, RLEA favors abolition of the ICC. And it supports adequate funding for Railpax and "for the new railroad safety program, the high-speed ground transportation program, the urban mass transit program and all other Federal programs aimed at improved transportation by rail."

Pullman closes 118-year-old plant

Pullman-Standard's Michigan City, Ind., freight-carbuilding plant, regarded by some students of manufacturing as the birthplace of the mass-production line, is permanently closing its doors after 118 years of operation. A car-building business changing at a pace which the plant's facilities could not match was cited by George L. Green, president, as the main reason for the closing.

Watching Washington

REID BEDDOW

ICC LOOKS AT RAILPAX

In its comments on DOT's proposed Railpax routes, the Interstate Commerce Commission—itself the target of a thickening fusillade of criticism in recent months—was careful to pay its respects to Secretary John A. Volpe for having accomplished "a most difficult and controversial task." "We commend you on the achievement of setting forth a plan upon which there can now be built a system of rail passenger service," said ICC Chairman George M. Stafford in his Dec. 29 letter to Volpe. But there—at line 4, page 1 of a 54-page document—the ICC's commendation ends. Actually, the ICC's comments are sharply critical.

MISLEADING AMBIGUITIES?

In the first place, the ICC cites "ambiguities in the manner of presentation and the layout of the preliminary designation, by which the public might be misled into thinking that every route shown will be operated." The ICC notes, for example, that one of the Chicago-San Francisco routes on DOT's Railpax map is described as "via Omaha-Ogden/Salt Lake." But there are at least three routings between Chicago and San Francisco via Omaha, the Commission points out: (1) Burlington Northern-Denver & Rio Grande Western-Western Pacific (the former "California Zephyr"); (2) Milwaukee-Union Pacific-Southern Pacific (the "City of San Francisco"); and (3) the interchange route presently operated by BN, Rio Grande and SP.

ICC WANTS TO SEE "A REAL TEST"

The Commission also questions, as have others, the "promise-of-profitability" yardstick which DOT apparently used in selecting the basic routes. "It is our judgment, if passenger revenues and carrier costs alone were determinative, that there would be a serious question as to whether a basic system of any kind could be sustained. Government help is required and that provided by the new legislation presents a wholly new picture. Now, cost considerations, while of importance, need not be of such magnitude as to spell defeat before the system has a chance to prove itself . . . The plan and the system should be utilized, at the very least, as a real test of whether good passenger-train service, equal in quality and quantity to the common expectations, can attract and sustain sufficient patronage to compete with the other popular modes of travel on a self-sustaining basis."

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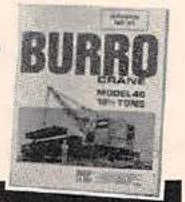

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Circle 24 on coupon page 51

NEWS

Santa Fe boosts '71 capital spending

Capital expenditures for Santa Fe Railway will hit $90 million in 1971—up from an announced $82 million for 1970. Expenditures for Santa Fe Industries companies are expected to total $125 million this year, down from $160 million in '70—but this decrease is largely accounted for by the fact that SFI substantially completed construction in 1970 on its Gulf Central and Chaparral pipeline systems.

Santa Fe President John S. Reed called the continuing high-level rail investment "evidence of our faith in the inherent soundness of railroad transportation, and our belief that demand for reliable rail freight service will continue to grow." Santa Fe, he says, "intends to do everything within our power to enhance our ability to serve our customers' needs. But at the same time, we urgently need changes in regulatory procedures and over-all transportation policy that will give railroads an opportunity to compete on a more even basis with our competitors. Changes such as those outlined in the ASTRO report are essential if we are to regain an adequate level of profitability to provide funds for further improvements that will enable us to serve at our full potential."

EMD offers upbeat forecast for 1971

General Motors' Electro-Motive Division is looking forward to substantial increases in locomotive deliveries in 1971—and to a continued high level of business in the years beyond. EMD lost 10 weeks' production during the GM strike last year, and '70 business was off by about 22% from 1969 levels. But says GM Vice President and EMD General Manager B. B. Brownell, "Even had we been able to maintain our production schedules in 1970, our forecasted locomotive business would still show a 12% increase over what might have been our total for 1970." Had it not been for the strike, EMD would have delivered more than 1,000 units in '70. The forecast for '71: Deliveries of close to 1,200 units.

Brownell bases his optimism on two factors: "First is the continuing economic need on most American railroads to replace old, worn-out motive power with modern, more efficient units. Our studies indicate a minimum locomotive replacement market of 1,600 units per year for U. S. railroads if the railroads are merely to keep pace with the replacement of 15-year-old locomotives. There presently is a backlog of more than 5,000 over-age, economically obsolete road freight units on domestic railroads. A second consideration is the continued growth of the American economy, which will demand a significant increase in railroad services. . . . Obviously, if the railroads are to handle this projected growth in freight traffic, a substantial increase in the nation's motive power fleet will be required."

Meanwhile, EMD itself is in the midst of a major plant modernization, re-tooling and expansion project—largest in the division's history—which will be completed by the end of 1971.

100 diesels, 1,471 cars on BN's list

Burlington Northern capital spending will be down somewhat in 1971—but the biggest cuts will be in the fixed-plant area, and equipment spending will remain high. The current budget calls for total '71 expenditures of $104.4 million, down from $124.3 million in 1970. Spending for new equipment, however, will add up to about $77 million, compared with $82.1 million last year. BN will acquire 100 3,300- and 3,600-hp road freight diesel-electric units and 1,471 freight cars (including 675 covered hopper cars). A heavy-repair program for 3,950 cars is also on the 1971 schedule. Major plant-improvement projects will be construction of a 4,000-foot bridge at Spokane and the beginning of work on classification yards at Spokane and Minneapolis.

Correa: Rails need help from Congress

This year 1970 was a tough one for railway suppliers—and 1971 will be even tougher unless Congress helps railroads raise money for capital improvements, says Henry A. Correa, chairman of the Railway Progress Institute. RPI represents nearly 200 railway supply companies.

Correa, who is president of ACF Industries, said RPI was concentrating its own efforts on two bills introduced by Senator Warren Magnuson (D. Wash.), chairman of the Senate Commerce Committee. One would provide government insurance to help railroads obtain private financing for acquisition of freight cars and locomotives. The other would create a non-profit National Freight Car Corporation to provide a pool of general service cars to be made available to shippers in times of shortages.

Correa said the present plight of railroads, coupled with the downturn in the general economy, has resulted in a level of spending far below what is needed. He noted that new-car orders fell to fewer than 50,000 in 1970, compared with 81,000 in 1969.

Chicago transit deficit forecast

The Chicago Transit Board has adopted its 1971 operating and capital budgets—with red ink liberally dotting the pages. Chicago Transit Authority revenues are estimated at $196.7 million, operating expenses at $197.9 million. CTA thus will have no revenues available to meet either its debt service or its depreciation requirements—and the total 1971 revenue deficiency adds up to more than $25 million.

Increases in wages and cost-of-living allowances are the big items in projected operating-expense increases. Meanwhile, the board is setting up a $16.6-million capital budget "in hopes that funds would be available in 1971." No new rapid-transit cars are included; the big budget item is $5.5 million as CTA's one-third share of the purchase cost of 500 buses.

John W. Barriger named to head B&M

John W. Barriger, who has retired from the presidency of two railroads (Pittsburgh & Lake Erie in 1965, the Katy in 1969), is now taking on a third. Trustees of the bankrupt Boston & Maine have picked Barriger, who was 71 on Dec. 3, 1970, to become chief executive officer of the B&M, effective immediately. The appointment was approved by the Federal District Court handling B&M's reorganization.

Trustees Robert W. Meserve, Paul W. Cherington and Charles W. Bartlett said the selection came after "an extensive survey of potential candidates." Since retiring as president of the Katy in July 1969, Barriger has served as chairman of the executive committee of that road. He has been in railroading for over 50 years.

Soo proposes new central-agency plan

Minnesota Public Service Commission has been requested by the Soo Line to approve a plan for central-agency service that would be implemented in nearly all parts of the state.

Under the plan, 11 traveling agents would work out of five regional service centers at Minneapolis, Glenwood and Thief River Falls, Minn., as well as Superior, Wis., and Hankinson, N.D. In Minnesota, Soo now has 76 open stations with agents assigned and 26 "pre-paid" stations that would be serviced under the plan.

In its application, Soo commented that "centralized agency service is one of the newest innovations to railroading, brought about through changing patterns in rail transportation over the past several decades. The depot, once the center of railroad activity in smaller communities, no longer handles enough business to be efficient in meeting modern-day transportation demands."

Through regionally located service centers, Soo noted, central-agency service offers customers direct contact on such matters as car billing, tracing, rating, routing and other freight information. Traveling agents, each assigned territories adjacent to the service center, call directly on customers at their convenience, literally bringing the depot to their door. Customers can elect to contact the service center directly via toll-free "Enterprise" phone or arrange for the traveling agent to call direct.

The 102 stations that would be affected by the proposal would be termed "open" once the plan is fully operative. An "open" station is one at which railroad business may be transacted and to which freight charges need not be pre-paid. The plan calls for gradual implementation.

Central agency service is currently being used by Soo in Wisconsin, North Dakota, Illinois and the Upper Peninsula of Michigan. Said a Soo spokesman: "The company takes pride in the fact that both shippers and station employees have been well satisfied with the plan."

Congress approves loan guarantees

In its final moments, the 91st Congress approved legislation permitting the Federal guarantee of loans, up to a total of $125 million, made to railroads in reorganization. The legislation was tailored to meet the immediate needs of Penn Central. Even before the Senate had voted, Penn Central had filed applications to issue government-guaranteed trustee certificates. These required approval by the Department of Transportation, the Interstate Commerce Commission and the U.S. District Court in Philadelphia which is handling the Penn Central reorganization.

In seeking government guarantees of privately made loans, Penn Central trustees told Congress that Congressionally-imposed wage increases would leave the bankrupt carrier with a cash-flow deficit of $5 million as of Jan. 31, $42 million as of Feb. 28 and $68 million as of March 31.

They warned that without help, the railroad might have to move toward a shutdown (RA, Dec. 28, 1970, p. 21).

Railroads in reorganization, in addition to the Penn Central, are Boston & Maine, Lehigh Valley and the Central of New Jersey.

NEWS

Lines on Labor

GUS WELTY

THE COMPANY PUB: WHAT'S IT WORTH?

If you're the editor of a company's employee publication, and you're serious about your job, you have to wonder: Do people read? And if they do, are they believing? And is the publication actually worthwhile as (1) a communication medium for the company and (2) a source of needed information for the employee? Missouri Pacific wondered about these things, and set out to find answers. And the answers MoPac got may be more than ordinarily revealing—keeping in mind that these are trying times, and that "MoPac News" (by any measure) has to rank as one of the industry's best employee pubs.

MOPAC GETS THE WORD: EMPLOYEES READ—AND BELIEVE

In a random-sample, anonymous-return survey, MoPac found that its tabloid has earned both a high readership and a high credibility quotient. The readership score was better than 90%—and, as a primary source of reliable information, "MoPac News" came in first in the total survey and first among responding union members. Perhaps significantly, among union members, union publications actually came in fourth—behind the employee newspaper, company bulletin boards and MP supervisors. Among all employees, union pubs were also outranked by "other employees and friends." And what are employees interested in? First, news of how the company is doing, of employee benefits, of new company services, and of the company's stand on major issues. Lower-ranked was the kind of coverage that still makes up a large part of many pubs—news of promotions, new personnel, retirees, company history.

THE EMPLOYEE WANTS TO KNOW—MOPAC WANTS HIM TO

Not everything came up roses. While 94% agreed that "It's important that I know as much as possible about MoPac, its policies and its operations," 60% declared that "It's difficult to learn what is going on." There was virtually an even split on the question of whether "company management seems interested in what I think about MoPac." Employees also seemed unsure as to whether "my supervisor is interested in my ideas." At the same time, 98% expressed interest in knowing "what stand the company takes on various issues affecting railroading." A thin minority, 10%, said that "most of the information I get from the company is just propaganda," with 69% disagreeing and 21% staying neutral. Just 20% regarded "MoPac News" as anti-union, with 45% disagreeing and 35% taking no position. You could put a number of interpretations on the MoPac survey results. One is that a kind of basic editorial philosophy is paying off: "Concentrate on hard news, stay away from the pap. If you have something to say, say it. If you have a position, declare it. And don't make people guess as to where you stand."

GATX moving into ocean shipping

General American Transportation has completed its acquisition of the ocean-shipping business of Marine-Oswego-Trinity Group (MTL) for $55 million and 300,000 shares of GATX common stock. MTL operates ships for others, and owns and operates 34 vessels—almost all of which are on long-term charter to oil, chemical and steel companies. MTL's American Steamship Company is not included in the transaction.

N&W announces $100-million program

Norfolk & Western anticipates spending approximately $100 million on capital improvements in 1971, says President John P. Fishwick. Major equipment acquisitions will be 100 new locomotives and 2,700 freight cars, including 2,254 coal hoppers.

Of the total, $30 million will be spent to build lines into new coal mines which Fishwick estimates will produce about $63-million a year in revenues "over a number of years."

Fishwick called 1970 a "frustrating" year and said he expects 1971 to be better.

He noted that shortly after he became president of the N&W last April, a drive was started to expedite train movement by increasing the number of pre-blocked or "run-through" trains. This has produced savings of half a day or more in transit time on many shipments by avoiding major yards and unnecessary switching. More than 20 such trains are operated daily over N&W.

In another move to improve car utilization, N&W inaugurated a "permit" system that has reduced turnaround time of coal hoppers from the mines to Lamberts Point at Norfolk, Va., by as much as four days, said Fishwick.

"Over the last several months, we have been getting about 20% more out of these hoppers," said Fishwick, who noted that some improvement had also been made in the movement of merchandise freight cars.

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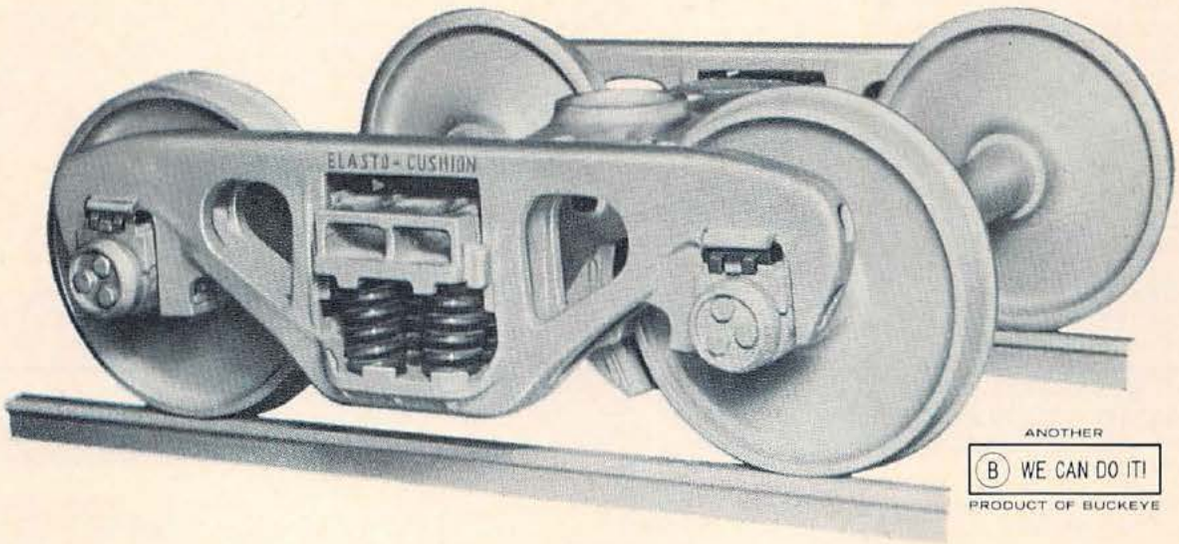

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already hailing the New Year as "Year 1 of the Transit Revolution."

RAIL TRANSIT REVIEW & OUTLOOK

BART will roll in '71; Washington digs— Who will be next?

The biggest transit story of 1971 will break late in the year when the San Francisco Bay Area opens the first segment of its $1.36-billion BART system. That event already promises to rival the Gold Rush in color and excitement.

As BART rushes to completion, Washington will be deepening and extending the holes it has already dug for a Metro system. Pittsburgh will be progressing its own multi-modal system (RA, Nov. 9, 1970, p.30). The big question of '71 will be: Who's next?

Baltimore, Atlanta, St. Louis, Los Angeles and Seattle are all contenders. The fact that these cities (and many others in early-planning stages) are able to think at all in terms of billion-dollar transit systems is made possible by another story, of even more far-reaching consequence than the BART opening, that will be unfolding this year in the offices of the Urban Mass Transportation Administration at the U.S. Department of Transportation.

● **Parceling out $600 million.** UMTA has been authorized to grant $10 billion to cities over the next dozen years. These grants, to be matched by one-third local funds, will make possible the biggest expansion and new-construction boom in the history of U.S. urban transport.

UMTA will start in a comparatively small way: the 91st Congress agreed to the commitment of $600 million over the next six months. Just how this initial $600 million will be divided is a matter of some conjecture, since the original breakdown prepared by UMTA was based on a hoped-for $864 million in fiscal '71. Presumably, however, roughly the same ratios will be preserved in obligating the $600 million (or whatever final amount the White House's Office of Management and Budget releases). The original breakdown called for $98.9 million for commuter railroad improvements, and $486.7 million for rail rapid transit, the remainder going to non-rail projects.

● **Front of the line.** First big grants under the new program will go to cities with existing transit systems—and with the resources to meet the requirement of one dollar of local money for every two dollars of Federal aid.

The metropolitan New York area, which plans to pour nearly $3 billion into transit and commuter railroad improvements in the next five years, has already applied for more than $1 billion in Federal funds, through its super-agency, the Metropolitan Transportation Authority. While subway construction will account for most of New York's expenditures, commuter railroads also stand to benefit handsomely, with $300 million earmarked for improvements in the five-year period.

Chicago is seeking more than $500 million in Federal funds toward a $762-million program calling for replacement of Chicago Transit Authority's Loop line with a subway, plus a new connecting line. Millions also will go to Chicago's commuter railroads, mostly for new cars.

The Massachusetts Bay Transportation Authority has blueprinted a five-year, $622-million program for expanding transit facilities in Greater Boston. To raise the required one-third local share, MBTA has asked the 1971 General Court for $250 million in additional bonding power.

Philadelphia is among other cities with applications already in for rail-related projects (see page 27).

● **San Francisco's showcase.** Existing systems—however spruced up—are not always the best advertisements that can be shown to cities that are just considering the plunge—but there is every indication that the new BART system will handsomely fill that need. As UMTA Administrator Carlos Villarreal has pointed out, BART's system will be a showcase that is certain to be carefully watched by the nation—and the world.

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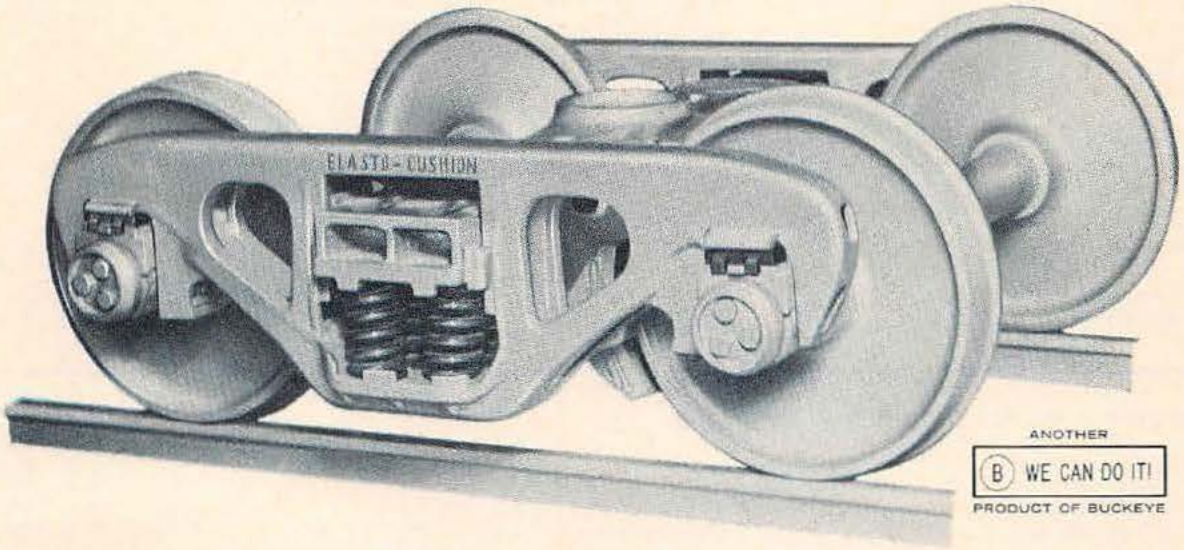
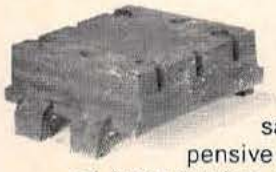
A recurring problem for the Metro has been the Congressional squabble

BUCKEYE
ELASTO-CUSHION TRUCKS



ANOTHER
(B) WE CAN DO IT!
PRODUCT OF BUCKEYE

The practical way to provide controlled lateral in today's trucks.



Buckeye's Elasto-Cushion trucks provide the most satisfactory, least expensive method yet devised of introducing controlled lateral movement in trucks equipped with anti-friction bearings.

An elastomeric and steel pad is set atop the standard bearing adapter. Total lateral movement, up to 1" on 70-ton trucks, and ¾" on 100-ton trucks, is taken in shear by the pad, reducing stresses on rails, wheel flanges, side frames, bolsters, center plates and other car parts, plus reducing rail shocks to lading.

Extensive tests of both four-wheel, and 150-ton six-wheel, Elasto-Cushion trucks, plus in-service experience on more than 600 cars operated by seventeen railroads and shippers during the past two and a half years, indicate the operating economy of this unique Buckeye design. Reduction in peak lateral loads is effected and you can anticipate extended service life and accompanying savings in repairs.

ASK YOUR BUCKEYE REPRESENTATIVE OR WRITE FOR 4-WHEEL AND 6-WHEEL ELASTO-CUSHION LITERATURE

BUCKEYE STEEL CASTINGS
A BUCKEYE INTERNATIONAL COMPANY
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RPI

Circle 12 on coupon page 51

Rail transit/commuter car market at a glance

These new-car orders are likely to develop in 1971:

For service on . . .	No. of cars	Type	Purchaser	Builder
Burlington Northern	25	Commuter	West Suburban Mass Transit District	
Chicago South Shore & South Bend	34	Commuter	Lake Porter County (Ind.) Transportation & Planning Commission	
Long Island Railroad	4	Commuter	Metropolitan Transportation Authority	
MBTA (Boston)	32	Rapid Transit	Mass. Bay Transportation Authority	
MBTA (Boston)	100	Street Cars	Mass. Bay Transportation Authority	
New York City Transit	520	Rapid Transit	Metropolitan Transportation Authority	
Penn Central	40-56	Commuter	New Jersey DOT	
Penn Central/Reading	144	Commuter	Southeastern Pennsylvania Transportation Authority	
San Francisco Municipal Railway	78	Street Cars	Public Utilities Commission	
Washington Metro	330	Rapid Transit	Washington Metropolitan Area Transportation Authority	

These new cars were delivered in 1970:

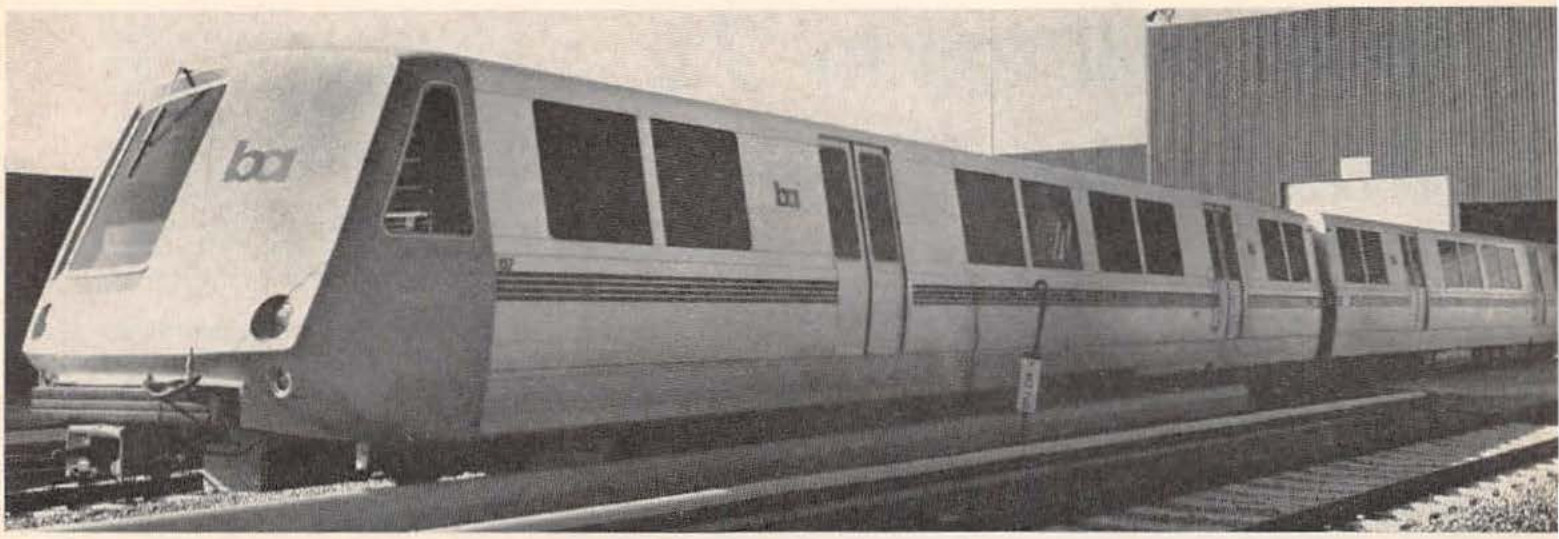
For service on . . .	No. of cars	Type	Purchaser	Builder
Bay Area Rapid Transit	4	Rapid Transit	BART	Rohr Corp.
Chicago & North Western	5	Commuter	C&NW	Pullman-Standard
Chicago Transit Authority	94	Rapid Transit	CTA	Budd
Cleveland Transit System	8	Rapid Transit	CTS	Pullman-Standard
Erie Lackawanna	20	Commuter	New Jersey DOT	Pullman-Standard
Rock Island	10	Commuter	Rock Island	Pullman-Standard

Work continues on this undelivered backlog:

For service on . . .	No. of cars	Type	Purchaser	Builder
Bay Area Rapid Transit	246	Rapid Transit	BART	Rohr. Corp.
Cleveland Transit System	2	Rapid Transit	CTS	Pullman-Standard
Erie Lackawanna	85	Commuter	New Jersey DOT	Pullman-Standard
Hudson & Harlem Divisions	80	Commuter	MTA	General Electric
Illinois Central	130	Commuter	Chicago South Suburban Mass Transit District	St. Louis Car
Long Island Railroad	120	Commuter	MTA	Budd
New Haven Division, Penn Central	144	Commuter	MTA	General Electric
New York City Transit Authority	300	Rapid Transit	MTA	St. Louis Car
Port Auth. Trans-Hudson Corp.	46	Rapid Transit	PATH	Hawker-Siddeley
Staten Island Rapid Transit	52	Rapid Transit	MTA	St. Louis Car
Toronto	76	Rapid Transit	TTC	Hawker-Siddeley

The long-range outlook:

For service on . . .	No. of cars	Type	Purchaser	Builder
Chicago Transit Authority	550	Rapid Transit	CTA	
Erie Lackawanna	190	Commuter	New Jersey DOT	
Illinois Central	20+	Commuter	Chicago South Suburban Mass Transit District	
Jersey Central	60	Commuter	New Jersey DOT	
Milwaukee Road	44	Commuter	Northwest Suburban & North Line Mass Transit Districts	
Montreal Metro (1971-1975)	279	Rapid Transit	Montreal Transit Commission	
New York & Long Branch	90	Commuter	New Jersey DOT	
Penn Central/Reading (1971-1977)	158	Commuter	SEPTA	
Philadelphia City Transit (1971-1975)	270	Rapid Transit	SEPTA	
(1976-1977)	142	Rapid Transit	SEPTA	
Rock Island	50	Commuter	Rock Island	



1971 Year 1 of the Transit Revolution

Can America's cities dig their way out of the traffic mess created by two generations of reckless concrete pouring? The year 1971 could well provide some of the answers:

—The Federal government will begin committing hundreds of millions of dollars (to total $10 billion in 12 years) for the building of brand new mass-transit systems and the sprucing up of old ones. Most of the money will go to rail systems.

—San Francisco's Bay Area, which didn't wait for Federal aid, will open the world's most modern urban rail system late in the year.

—Washington, D.C., will speed up the digging of a Metro that will rival those of other world capitals.

No wonder men such as Robert M. Coultas, executive vice president of the Institute for Rapid Transit, are already hailing the New Year as "Year 1 of the Transit Revolution."

BART will roll in '71; Washington digs— Who will be next?

The biggest transit story of 1971 will break late in the year when the San Francisco Bay Area opens the first segment of its $1.36-billion BART system. That event already promises to rival the Gold Rush in color and excitement.

As BART rushes to completion, Washington will be deepening and extending the holes it has already dug for a Metro system. Pittsburgh will be progressing its own multi-modal system (RA, Nov. 9, 1970, p.30). The big question of '71 will be: Who's next?

Baltimore, Atlanta, St. Louis, Los Angeles and Seattle are all contenders. The fact that these cities (and many others in early-planning stages) are able to think at all in terms of billion-dollar transit systems is made possible by another story, of even more far-reaching consequence than the BART opening, that will be unfolding this year in the offices of the Urban Mass Transportation Administration at the U.S. Department of Transportation.

● **Parceling out $600 million.** UMTA has been authorized to grant $10 billion to cities over the next dozen years. These grants, to be matched by one-third local funds, will make possible the biggest expansion and new-construction boom in the history of U.S. urban transport.

UMTA will start in a comparatively small way: the 91st Congress agreed to the commitment of $600 million over the next six months. Just how this initial $600 million will be divided is a matter of some conjecture, since the original breakdown prepared by UMTA was based on a hoped-for $864 million in fiscal '71. Presumably, however, roughly the same ratios will be preserved in obligating the $600 million (or whatever final amount the White House's Office of Management and Budget releases). The original breakdown called for $98.9 million for commuter railroad improvements, and $486.7 million for rail rapid transit, the remainder going to non-rail projects.

● **Front of the line.** First big grants under the new program will go to cities with existing transit systems—and with the resources to meet the requirement of one dollar of local money for every two dollars of Federal aid.

The metropolitan New York area, which plans to pour nearly $3 billion into transit and commuter railroad improvements in the next five years, has already applied for more than $1 billion in Federal funds, through its superagency, the Metropolitan Transportation Authority. While subway construction will account for most of New York's expenditures, commuter railroads also stand to benefit handsomely, with $300 million earmarked for improvements in the five-year period.

Chicago is seeking more than $500 million in Federal funds toward a $762-million program calling for replacement of Chicago Transit Authority's Loop line with a subway, plus a new connecting line. Millions also will go to Chicago's commuter railroads, mostly for new cars.

The Massachusetts Bay Transportation Authority has blueprinted a five-year, $622-million program for expanding transit facilities in Greater Boston. To raise the required one-third local share, MBTA has asked the 1971 General Court for $250 million in additional bonding power.

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over mass transit vs more highways. Rep. William H. Natcher (D.-Ky.), of the D.C. House Appropriations subcommittee, held up funds for the Metro late in 1970, pending agreement on certain freeway projects. UMTA made an extraordinary $57 million loan to keep construction going.

● **Baltimore next?** Baltimore could be the first city to go to UMTA for help in financing a brand new rapid system. Late in 1970, directors of the Metropolitan Transit Authority of Maryland voted to adopt a duo-rail, steel-wheel system for the proposed Baltimore Rapid Transit System—a decision reached after a thoroughgoing investigation that included visits to the Lindenwold (PATCO) line in South Jersey, and to Montreal, Toronto, San Francisco and Pittsburgh. In accepting the recommendation of MTA General Manager Walter T. Addison for the steel-wheel system, the board rejected a proposal involving single-axle, rubber-tired vehicles.

First phase of the system would run 28 miles. It would include a northwest-to-southeast line from Owings Mills in Baltimore County to Charles Center downtown, then south to Marley in Ann Arundel county, with a spur to Friendship Airport. A total system of 71 miles would eventually service six busy corridors. Addison hopes to start construction in July 1972. Completion date would be 1978.

Baltimore will be watched with especial interest by other cities. The reason is that the problem of raising the local share of the $656-million first-phase costs could be less sticky there than it has been in those cities—Seattle and Atlanta—which unsuccessfully tried the referendum route for a bond issue.

Baltimore is presently considering four alternative modes of financing: raising the state sales tax half a cent; raising the state motor vehicle titling tax; raising by 10% the Baltimore area's "piggyback" tax (collected by the state for local governments at a rate set by each local government); or a combination of any of these to pay for bonds which the new Department of Transportation will be authorized to issue when it comes into existence next July.

Robert M. Coultas, executive vice president of the Institute for Rapid Transit, points out that only the "piggyback" tax-hike proposal would throw the burden of local financing on Baltimore-area residents. "The others represent sharp departures from past rapid transit local financing in that they spread the cost of rapid-transit construction throughout the state," notes Coultas.

IRT'S ROBERT COULTAS, a long-time and effective campaigner for rail transit, suggests that Baltimore may have found answers to the local-financing problem.

● **Back to the polls for Atlanta?** Atlanta, where transit has suffered one defeat at the polls, may go back to the voters in November of 1971. There is some feeling that the assurance of Federal funding could tip the scales. But other avenues of financing are being explored. At a recent meeting of elected officials from four counties and the City of Atlanta, a ½% sales tax and a 1% personal income tax were discussed.

After Baltimore and Atlanta, St. Louis and Los Angeles are considered likely candidates for early Federal-aid applications. A third trip to the polls in Seattle, where transit bond-issue proposals have twice been defeated, is considered unlikely in the near future due to the depressed economic situation of that city (a "one-company" town whose one company, Boeing, had laid off tens of thousands of workers).

● **Operating red-ink.** While Federal grants will help pay for the capital costs of transit improvements—and trigger a transit construction boom over the next decade costing between $20- and $30 billion—operating deficits will continue to be a headache for which they are no quick or obvious remedies. Chicago Transit Authority, for example, anticipates that operating revenues of $197 million in 1971 will fall short by $1.2 million of meeting operating expenses and will leave nothing to meet debt-service requirements of $8 million and a $15.7 million depreciation provision. Thus Chicago looks for a total deficit of $25 million for 1971. Various forms of state and local aid are being sought to make up for the farebox deficiency.

New York City Transit Authority's operating deficit will be substantially higher—but in New York, as in Chicago, there is no longer any real feeling that all operating costs must come from fares. William J. Ronan, chairman of New York's Metropolitan Transportation Authority, commented recently that there is no more reason for concern about a deficit transit operation, in terms of deriving all costs directly from the users, than there is for concern over a deficit fire-department or police-department operation.

● **Boon—or blight?** While there is broad agreement, even among traditionally hostile groups, that mass transit is an idea whose time has come, there continue to be protests from die-hard doubters. Subways, they say, blight cities. In any event, they ask, won't people accustomed to the comfort and convenience of their own autos rather fight than switch?

In reply to the latter question, transit advocates point to the great success of Cleveland Transit's airport extension; and to the equal success of the Delaware River Port Authority's 14-mile Lindenwold, (N.J.)-Philadelphia high-speed line, which opened two years ago with 17,000 daily riders and hit a new peak of 37,000 late in 1970.

These experts also suggest that both questions posed by the doubters are rather definitively answered by the experience of Toronto.

W. H. Paterson, general manager for construction, Toronto Transit Commission, said recently:

"The Yonge Street Subway was completed and put into operation in 1954 . . . At the time the Yonge Street line began operation, we thought the initial load would reach a maximum of 200,000 passengers per hour and that the system's total capacity of 40,000 would not be required for many years. Within a few months of opening, an order for additional equipment was placed so that full operation could be provided. In December 1957, the line was carrying loads of more than 35,000 passengers per hour.

"A study of the increase in traffic on the Yonge Street line showed that about 13% of the passengers using the northern terminal had been induced by the subway to leave their cars at home and travel downtown by public transit. This was equivalent to removing 10,000 cars daily from the north-south street system. A study of the use of parking lots adjacent to subway stations has shown that the spaces are used about two and one-half times per day, and that 80% of the people parking in these lots

(Continued on page 44)

UMTA ACHIEVEMENTS

SINCE FEBRUARY 1965

BY MEANS OF:

154	Capital improvement grants for
$729,534,678	In Federal funds, and
3	Capital improvement loans for
$63,100,000	In Federal funds

THE UMTA PROGRAM HAS ACHIEVED THE FOLLOWING:

38	Cities' bus transit systems preserved or stabilized
4,566	New buses purchased
950	Rail rapid transit cars purchased
630	Commuter railroad cars purchased
70	Miles of rail rapid transit track extensions built or under construction
5	Cities assisted in modernization of rail rapid stations
181	Miles of commuter railroad modernization projects
42	Bus garages and service facilities constructed or modernized

RAIL VEHICLES PURCHASED

SINCE FEBRUARY 1965

RAIL RAPID TRANSIT CARS

250	San Francisco Bay Area Rapid Transit District
150	Chicago Transit Authority
76	Massachusetts Bay Transportation Authority
400	New York City Transit Authority
30	Cleveland Transit System
44	Port Authority Trans-Hudson Corporation
950	SUBTOTAL

COMMUTER RAILROAD CARS

144	Penn Central Railroad (New Haven Division)
130	Illinois Central Railroad
80	Penn Central Railroad (Northern New Jersey)
120	Long Island Railroad
130	Penn Central Railroad (Philadelphia Area)
14	Reading Company
12	Reading Company 1/
630	SUBTOTAL
1,580	GRAND TOTAL

1/ Loan

MILES OF RAIL RAPID TRANSIT TRACK EXTENSIONS 1/

SINCE FEBRUARY 1965

MILES	
30	San Francisco Bay Area Rapid Transit District
15.3	Massachusetts Bay Transportation Authority
(9.3)	South Shore extension
(6.0)	Haymarket North tunnel and extension
14.75	Chicago Transit Authority
(0.25)	Englewood extension
(5.0)	Kennedy extension
(9.5)	Dan Ryan extension
6	Washington Metropolitan Area Transit Authority 2/
4	Cleveland Transit System Airport Extension
70.05	TOTAL

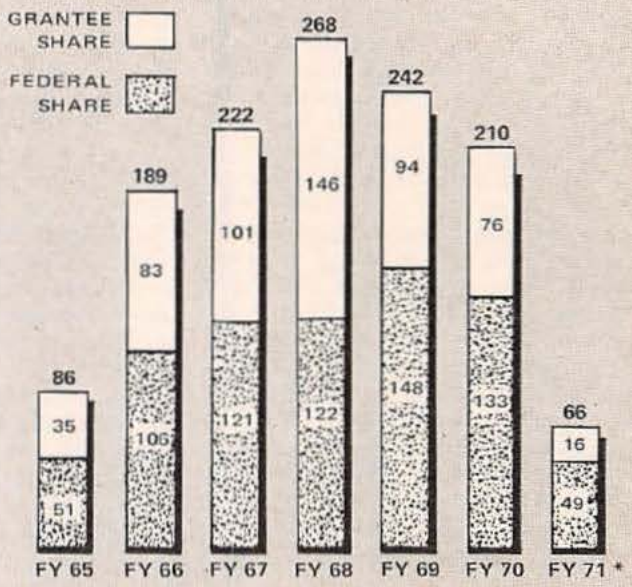
1/ Built or under construction
2/ Loan

So far grants and loans have totaled $800 million

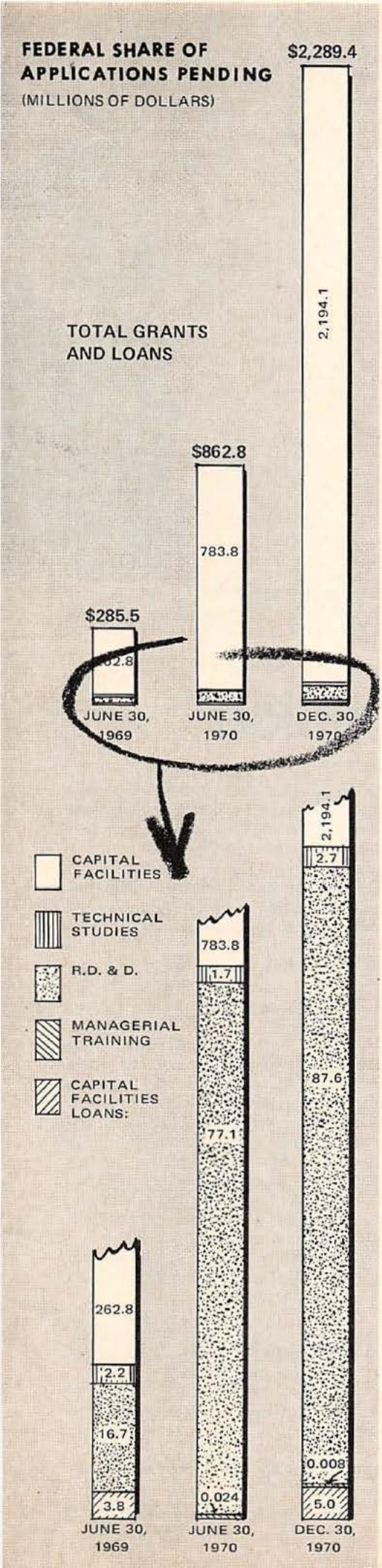
Prior to passage of the new transit-aid bill, cash expenditures of over $729 million had been made for transit. This money helped to buy nearly 1,600 new rail transit and commuter cars and 4,500 new buses, and build 64 miles of transit track. Applications for aid under the Urban Mass Transportation Assitance Act of 1970 have passed $2.2 billion, mostly for rail-related projects (see table, far right).

CAPITAL GRANTS (IN MILLIONS OF DOLLARS)

Cost of Projects and Amendments Approved Fiscal Year 1965-71



**Includes $27.6 million in Federal funds for projects approved in FY '70 contingent on funding in FY '71. House and Senate conferees have agreed to permit obligation of a total of $600 million in FY '71.*



Applications are now pending for $2 billion in rail-related grants

		Total cost	Federal share
Metropolitan Transportation Authority (New York)	Subway extension	$2,000,000,000	$800,000,000
	Extending Long Island Railroad	300,000,000	200,000,000
	230 commuter cars	54,000,000	36,000,000
	Mineola-Huntington electrification on Long Island Railroad	16,996,340	11,330,894
	Further extension of LIRR electrification	15,008,300	9,905,478
	Construct lay-up yards & terminal facilities, also signal equipment	10,000,000	6,666,666
	Track improvements (LIRR)	9,100,000	6,066,666
	Rehabilitate 70 LIRR cars	3,000,000	2,000,000
	Purchase two wheel-truing machines	1,200,000	800,000
	Design LIRR portion of approaches to new East River tunnel	975,000	650,000
	Air-conditioning for rapid transit cars	880,000	586,000
	Distribution system for midtown and downtown Manhattan	700,000	466,666
Chicago Urban Transportation District (Chicago Transit Authority)	Construct two subway facilities	$762,000,000	$508,000,000
	Electronic information system	410,000	307,778
West Suburban Mass Transit District, Chicago	Purchase of railroad cars and locomotives	33,091,122	22,060,748
State of New Jersey	Electrify and improve New York & Long Branch, and 90 new MU cars	79,985,000	53,323,333
	56 commuter cars	7,683,000	5,122,000
	Test "Dial-A-Ride" on PATCO (Philadelphia-Lindenwold line)	1,685,050	1,486,050
	Replace Metuchen Station on Penn Central	879,200	586,133
City of Philadelphia	Center city commuter railroad connection; rehabilitate 75 subway cars	$ 87,501,000	$ 46,541,332

CONTINUED ON PAGE 44

"Total capital requirements of transit over the next 12 years are $33 billion"

TRANSIT'S POWERHOUSE TEAM IN WASHINGTON: DOT Secretary John A. Volpe (right) and UMTA Administrator Carlos Villarreal played key roles in winning big new Federal commitments for urban and suburban transportation.

The SST compromise reached by Congress Jan. 2 freed the Department of Transportation's appropriations bill from deadlock—and authorized the obligation of $600 million in Federal funds for transit improvements in fiscal '71. There remained the possibility that the Administration might not permit all of this amount to be committed by June 30—but as the New Year began, UMTA Administrator Carlos Villarreal remained optimistic for the future of his program. He discussed the prospects, long- and short-range, with Railway Age.

Q. A key provision of the new legislation was the contractual authority which it gave UMTA. It was widely reported at the time that under this provision, UMTA had immediate authority to obligate up to $3.1 billion. This has not proved to be the case. House and Senate conferees have agreed to obligations totaling only $600 million for fiscal 1971, with indications that there might be a further holddown from the Office of Management and Budget. Does this mean that the Federal-aid program has less teeth than we had hoped a few months ago?

A. I don't believe that the program has any less teeth merely because we might not obligate the larger amounts of money early in the program. Even with the smaller amount for obligation, we will have seen the program escalate from $175 million to $214 million and now to an authorized $600 million.

Q. Do you believe that the $10 billion authorized for the entire 12 years of the program will, in fact, be made available during that period?

A. I believe that if we do a good job during the first two or three years of the program that we will not only be able to obligate $10 billion over the next 12 years but we might be able to obligate even more. We have estimated the total capital requirements of transit, over the next dozen years, to be in excess of $33 billion. Now with the $10 billion authorized, of course, we are really talking about $15 billion because the one-third local share would amount to $5 billion. And that is already nearly half of the total requirement.

Q. Will the environmental- and labor-protection provisions of the 1970 Act, as some fear, hamper you in committing available Federal money?

A. We don't anticipate that these requirements will hamper our ability to make grants in any way. It will require that we staff up and organize our approval process in order to incorporate these features. We are presently organized and have sufficient staff on board at this time to make the obligations totaling $600 million between now and the end of this fiscal year.

Q. Are you and Secretary Volpe concerned over the escalation in the cost of new railroad commuter cars?

A. We are very concerned about the rising cost of new rolling stock. We took a very good look at the cost for the New Haven cars [144 cars ultimately ordered from General Electric, with the Federal government and the states of New York and Connecticut sharing the cost] and we are looking now at the cost for the Southeastern Pennsylvania Transportation Authority Cars [a low base bid of $408,440 per car, for 130 to 144 cars, is under consideration]. There is no reason why costs cannot be more reasonable. We feel that with additional monies for rolling stock that the cost can be stabilized and we can get the maximum value for the taxpayers' money.

Q. Would foreign participation in a bid, to a substantial degree, be a barrier to UMTA's granting money?

A. Our legislation has no Buy American policy.

Q. We have seen the Rohr Corp., basic-

Volpe: "The tide had to be turned . . ."

Secretary Volpe's commitment to a Federal mass transit program has been constant and he has fought hard to get the program where it is today, often against staggering odds. A few days ago, Volpe reviewed some of the problems which led the Nixon Administration to embark on its multi-billion-dollar transit-aid plan:

" We are confronted by a disastrous decline in public transportation in the cities. Transit patronage is only one-fourth what it was right after the war and you don't have to look far for the reason: increasing costs, rising fares, declining ridership, shrinking profits and plummeting service.

"No wonder people turned to their cars. They may have been able to average only five to 10 miles an hour in rush-hour traffic, but at least they didn't have to stand in the rain waiting for a bus that was old, crowded, often dirty.

"However, reliance upon cars spread cities out and forced suburbanites to waste many unnecessary hours driving back and forth to work. And highways, parking lots and interchanges disrupted neighborhoods and pre-empted valuable, taxable land. Meanwhile, the ghetto resident too poor to own a car couldn't get out to the suburbs where the new factory jobs were concentrating. The tide had to be turned. We were becoming victims of our own sprawling prosperity.

"It was obvious to the President, to me, and to my staff that unless this trend was reversed our cities would degenerate into perpetual traffic jams, decay and chaos. So we drafted—and we submitted—a public transportation bill. The bill obviously answered a great national need, because it sailed through Congress with substantial majorities. As President Nixon said when he signed the bill in October, this is 'landmark' legislation that will turn the tide toward more habitable cities where people can work productively and live at peace."

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ally an aerospace firm, enter the transit market with the BART-car contract. Do you anticipate other manufacturers entering this market?

A. As you are aware, the aerospace industry is somewhat depressed at this time. Secretary Volpe and I would be delighted if additional aerospace companies would become interested in the transit market. It is going to be an exciting market; it is going to be a big market. Here is an opportunity for aerospace companies to diversify and make a real contribution.

Q. What about hardware research?

A. One of our most significant accomplishments in recent months has been the restructuring of our Research Development and Demonstration Program. We are going to emphasize new hardware with a view in mind of getting new systems moving people in demonstration programs throughout the country. This not only involves a very exciting and innovative program for buses but also for rail rapid and commuter rail. One thing we plan to have started in early spring is construction on a railroad commuter and rail rapid test track in Pueblo, Colorado. This test facility will play a major role in improving commuter and rapid transit systems. We have already made great strides at BART's Diablo test track. But the test track at Pueblo will provide an opportunity for all of the industry to participate, not only the transit properties but the carbuilders and other manufacturers.

Among the exciting things that we plan to do this year is to go out for brand new rail car designs. We expect to have several UMTA test vehicles operational within the year. These cars will be operating in Pueblo initially. Then they will be assigned to various properties so that we can get the riders' reactions. We will start with new suspension systems, new regenerative braking systems, new and improved air-conditioning systems.

We also expect to have some brand new cars within two years that will be prototypes that can be used as standards for railroad commuter and rail rapid cars. We expect to move forward in the area of standards and specifications for all types of transit vehicles. We expect to award contracts for these cars during this fiscal year.

Q. How do you persuade the motorist to leave his auto and use transit?

A. The whole key is that public transportation has to be so attractive that it will provide the commuter a choice that he does not now have.

The reason the automobile is so popular is that it is the most efficient method of personal transit known to man. It has a high user coefficient. The carrier part of the coefficient is the street or the throughway.

It is the higher user coefficient that will make a public transit system more attractive, not the high carrier coefficient.

A user coefficient goes up if you have flexibility of routes, flexibility of schedules, if the vehicle is comfortable, dependable, reliable. It must run on time, it must be warm in the winter and cool in the summer. These are the things that improve the user coefficient of any transit system.

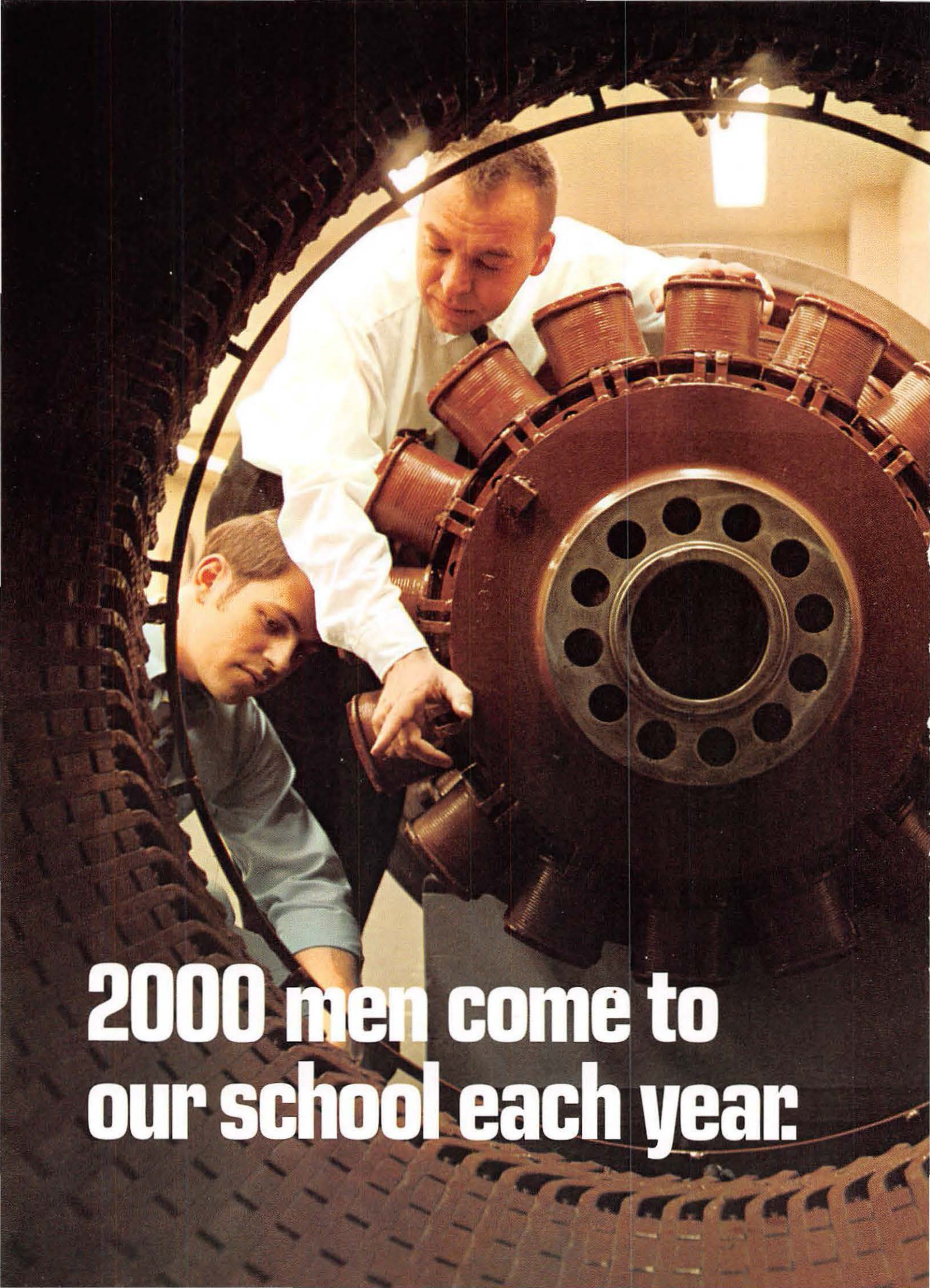
Now we at UMTA are not against automobiles. We are not competing with the automobile. We feel that the automobile performs a most important function. What we are trying to do is complement the automobile.

Q. Do you think the BART system will be a good advertisement for public transit?

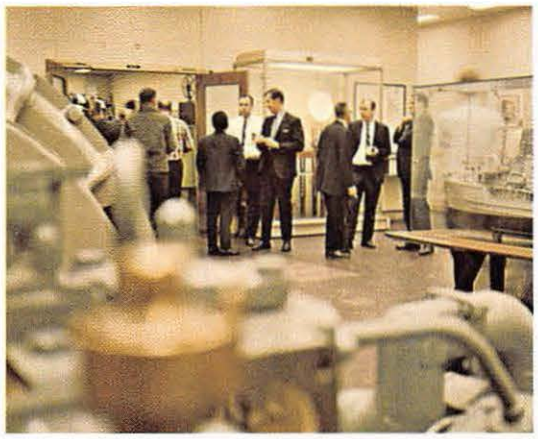
A. The BART system has great importance on a national basis because cities all over the country will look to BART for guidance. Secretary Volpe and I feel that the BART system must be successful.

Q. Are you on the whole pleased with what has happened since you took over as UMTA administrator?

A. I am most pleased. There are several things that have made the success of this program possible to date. First of all has been the national priorities which President Nixon himself has placed on the program and secondly, of course, has been Secretary Volpe's support of this program. A great deal of credit should be given, too, to the organizations which supported the legislation, not only the traditional organizations such as the American Transit Association, the Institute for Rapid Transit and the Railway Progress Institute, but also the League of Cities and the Conference of Mayors, the U.S. Chamber of Commerce, the National Conference of Governors, and highway interests such as the American Association of Automobile Manufacturers. UMTA has a new constituency with a great deal of power to support future legislation.



2000 men come to our school each year.



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GM
MARK OF EXCELLENCE

Electro-Motive Division
La Grange, Illinois

"We must assign substantial priority to research that will . . .

This issue of Railway Age comes out eight days short of a year since Dr. William J. Harris, Jr., stepped into the new position of vice president research and testing of the AAR. Dr. Harris' appointment signified a turnabout in AAR policy. Never before had the association put so much emphasis on research. True, it had a research center at Chicago but the scope of its activities was limited and, furthermore, its staff had been allowed to suffer from attrition in recent years as retirements and resignations took place without replacements being hired to fill the vacancies. As the staff dwindled the morale of those who remained went down. Moreover, railway officers were often critical of the center, charging that it was concentrating too much attention on testing and not enough on basic research.

Into this picture came Dr. Harris backed by an enlarged budget (later pruned somewhat), a set of impressive credentials and authority to create a whole new research program. His credentials are more than impressive, they are startling. He has a Doctor of Science degree in metallurgy from MIT obtained in 1948, but long before that (1941-45) he was doing development work for naval aircraft. His activities since then have included important positions with the Naval Research Laboratory, the National Academy of Sciences-National Research Council, and Battelle Memorial Institute. His activities in professional organizations have been extensive, including top positions in the Engineers Joint Council, American Institute of Mining, Metallurgical & Petroleum Engineers, the Metallurgical Society, Engineering Foundation, Engineers Council for Professional Development, and many others.

The following interview indicates that Dr. Harris, in his first year of service in the AAR post, has obtained a solid grip on railway problems that lend themselves to research and has already charted a course aimed at building a broad base of government assistance in solving railroad research problems.

Q. Dr. Harris, when did you start in your position as vice president of the AAR research and test department?

A. January 19, 1970.

Q. Had you had any connection with the railroads before that?

A. No, I hadn't worked for the railroads, although while I was on the staff of the National Academy of Sciences I participated in planning a few seminars that dealt with research to improve railroad operations. And while I was with Battelle Memorial Institute, I organized a series of week-long seminars on transportation in the United States.

Q. As you see it, what is your main function in the AAR?

A. My responsibility is to formulate and execute a research program which will contribute to the profitability of the railroad industry.

Q. What are the areas of activity covered by your position?

A. My assignment is to be concerned with research in any field that affects the railroad industry, which is obviously a very broad assignment requiring a scope of activity which is beyond our current budget capability to discharge in full.

Q. During the first year of your service, have you gained any impressions of the railroad industry that have struck you with particular force?

A. I find that the railroad industry is far more active in technical matters than is the impression held by most people outside the industry. I certainly have been impressed by the dedication and competence of the people with whom I have become associated in the railroad industry. I find it very difficult to explain to non-railroaders why the industry has some of the problems it has.

Q. What progress have you made in formulating an over-all railroad research program?

A. The Research Consulting Committee, which existed for several years before I joined the association and which was chaired by Dr. H. N. Laden, assistant vice president research of the C&O/B&O, had spent much time formulating a comprehensive railroad research program. I find no basic argument or disagreement with the recommendations of that earlier group. What I have been attempting to do, however, is to develop a basis for the establishment of priorities and for the allocation of our limited resources. I have made some progress in this direction. The factors that influence the research program are matters of public and Federal concern as well as of internal concern to the railroads. I think I have made some progress in understanding what those factors are and therefore in developing the basis for a longer-term research program.

Q. You mentioned priorities and their importance in setting up a program. Have you determined in your own mind priority ratings for the various projects you may have in mind?

A. The problem of allocation of resources is a critical problem faced by any manager. However, it's very evident that we must assign substantial priority to research that will increase railroad safety. We must assign a substantial amount of effort to dealing with shorter-term testing on research problems which affect current operations. And it is obvious that we need to spend more time in trying to determine what kind of research will increase the penetration of profitable markets by the industry.

There are some guide lines in the latter area suggesting that research on matters of operation will increase time-reliability of movement of goods and improve the opportunities of the railroads to serve the market. At the present time, however, the railroad safety legislation and concerns of the National Transportation Safety Board, as well as the Bureau of Railroad Safety of FRA, have indicated to me that our first priority must be safety. Therefore, we are allocating a rather larger amount of our funds to the safety area than to any of the other areas.

Q. Are you undertaking any particular projects in the safety area at this time?

A. The major project that we have underway, and one of which I am very proud, is a cooperative program with the Railway Progress Institute and its Committee on Tank Cars. In February 1970, we arrived at a basic agreement

. . . increase railroad safety . . . affect current operations . . . increase penetration of profitable markets"

Dr. William J. Harris, Jr., vice president research and testing, AAR

under which the tank-car builders and the railway industry are sharing in the cost of a substantial program on tank-car safety research in the post-derailment environment. In this program, the builders are furnishing five man-years of effort for a year and the railroads two man-years of effort per year. Collectively, we will be contributing an additional ¾ million dollars to support work on a contract basis within the industry or external to it.

This program stems from the deep conviction that the tank-car builders and the railroads can cooperate in determining more precisely the nature of the events that occur when tank cars are in a post-derailment environment. We believe that by studies of materials, pressure relief systems, details of design, the thermal environment and other factors, we will be able to determine the cost-benefit ratios of various approaches toward increasing tank-car safety. Therefore, we will be able to enhance the ability of the railroads to move hazardous materials even more safely. Their record of safety has been good. We are hoping through this program to improve it.

Q. You mentioned budget limitations. What did you have in mind?

A. The amount of research that is being done nationally on railroad problems, I believe, falls substantially below what ultimately we ought to expect as a proper level. One reason for the relatively modest investment in research in the railroad industry stems from the fact that the government hasn't yet identified railroads as an important area in which to make substantial research investments.

In addition, both the supply industry and the railroad industry have had serious financial difficulties for the past decade or two. During that period, the national research program advanced at a very rapid rate and railroad research activities fell behind. Before 1940, total research expenditures in the United States were less than $1 billion. In 1970 they will amount to $25 or $26 billion. Before 1940, the Federal investment in research was only a few hundred million dollars. In 1970 it is $17 billion. The railroad industry came to maturity long before the Federal government became deeply involved in research, and the railroads have not yet been identified by the Federal government as appropriate for major support within the Federal research program.

Work of the Research Consulting committee, and other studies made within the AAR prior to my arrival, have indicated a desire to have a budget of several million dollars within the AAR for the conduct of research. My research and testing budget is now in the range of a million dollars per year. Early in 1970 the AAR board of directors augmented this budget by several hundred thousand dollars. However, more recent developments, such as the Penn Central bankruptcy, have impinged negatively on the over-all budget of the AAR, and the research budget has accepted its share of the general reduction.

This is a temporary setback so far as I can see. I'm convinced that the railroad industry and the AAR board have a deep and abiding concern about the support of an adequate research program. When funds are available in the industry in general, I expect the research budget of the AAR will be increased appropriately to deal with the problems that we now can define and to provide opportunities for improvement of equipment, of operations, and of rights of way in a manner similar to the contributions research has made in other industries.

The fact that we do have a limited budget now only means that we have to be even more careful in the selection of the projects that we pursue. It also increases the importance of developing cooperative programs with suppliers and railroads so as to minimize unnecessary duplication without in any way attempting to discourage the normal competitive forces that lead manufacturers and suppliers to carry out programs aimed at increasing their ability to serve the railroads.

Q. Do you have any particular amount in mind that should be set aside annually for railroad research by the railroads?

A. I'd rather answer that question in a general sense. I believe that an industry as large and as important as the railroads should be supported by at least $100 million per year of research done nationally. When I examine other industries and the environments within which they operate, I would say the railroad industry per se should not be expected to finance more than about 25% of that total figure. Of that 25% I would expect only a relatively small fraction would be assigned to AAR for its responsibilities. So, several million dollars rather than the present one million dollars would represent a desirable target for the AAR.

The establishment of a research community necessary for progress in the railroad industry takes funding from multiple sources and it takes a variety of techniques for funding from those sources. Contracts by government that create university programs, support by government of in-house laboratories and support by suppliers in the railroad industry of in-house work and contract work are essential ingredients in the kind of research community that we should have. That kind of community exists to support the aerospace industry, the communications industry, the

electronics industry and many other dynamic industries in the United States. That kind of community does not exist in the railroad industry because there has been insufficient funding from government as well as from the private sector.

Q. Do you see any progress being made toward setting up that kind of community in the railroad industry?

A. Yes, I have been very heartened by a few things that happened recently. The establishment of the Transportation Systems Center in Cambridge, reporting to the Department of Transportation, provides an in-house capability which I think government needs and which I am happy to see is now dealing with all modes of transportation. In a recent visit to that center I found some work in progress relating to railroad activities and programs. I'm looking forward to establishment of a greater degree of communication and cooperation between that in-house program and the programs of the AAR and our member companies.

There have been signs of some slow upward movement in the budgets of railroad research in government, although not at the rate either the government or we would like to see because governmental support of research in this field is necessary as a counterbalance to governmental support of research on behalf of other modes of transportation.

I have found that railroad suppliers are maintaining substantial research programs despite the difficult fiscal problems of the railroads today, and the limited market for some of their products. I find that railroads are trying very hard to continue to work internally and to support the AAR program to the best of their ability. I think the atmosphere is good, but it is going to take financial help before we can move rapidly toward an adequate private sector program. It's going to take a change in priorities in government, as well as relief from the deficit financing problems of today, before the Federal rail research program reaches the levels that I think it should and I hope it will.

Q. Do you visualize the government setting aside funds specifically for railroad research?

A. Yes, in the budgets of the FRA I confidently expect that there will be an increased amount allocated to research. They have a small research budget now. They have requested additional funding and we are very hopeful that it will be granted.

Q. Are there now projects under way or in prospect that come under the heading of railroad research financed by government?

A. There are several such projects. Most governmental research dealing with railroads now is directed toward high speed ground transportation and, therefore, its relevance to rail freight operations is rather limited. However, there are programs in progress on inspection techniques and on problems of emissions in pollution control and in other areas that do bear on our needs. We are attempting to cooperate as best we can with government in communicating to our members the work that they have done and in offering comments on their programs.

One other major program of government that will affect the railroad industry has to do with the construction of the dynamic test facility at Pueblo, Colo. This facility is designed to permit dynamic studies of individual cars. It's called a wheel dynamics simulator. It is being built with funds supplied by the FRA and will give the United States a facility that other countries now have and that we do not have.

Q. You mentioned pollution. What are some of the areas of railroad pollution that you feel can be attacked and solved by research?

A. The railroads currently are spending tens of millions of dollars on pollution control. There are no Federal or even state regulations on emissions from diesel engines, but these may come in time. We have a very good record on emission levels today. The amount of pollution that can be attributed to diesel locomotives is a very small fraction of the national total. Nevertheless, I expect, through research which will be done largely by the suppliers, that we can and will make progress in further reducing these emissions.

Q. What other areas of pollution are a problem on the railroads now? What can be done about them from the standpoint of research?

A. There is a pending rule that deals with a possible requirement for installation of toilets on locomotives and cabooses. We are engaged in cooperative programs with railroads in the study of various kinds of toilets that will comply with these pending regulations. I'm confident that we will be able to achieve an adequate level of control. I'm very hopeful that we will be permitted to utilize advanced technology that permits treatment of wastes and discharge of harmless effluent on the right of way, rather than attempting to develop systems that depend exclusively on retention tanks.

Q. Are there any areas involving tracks and roadbed where you feel research is needed?

A. I think we have some problems in track that warrant continued research. The last major development in the United States involving rail metallurgy was made in the middle 1930's when processes for controlled cooling were introduced to eliminate hydrogen and thus do away with an important cause of rail failures. Since that time, of course, we have moved extensively toward the use of welded rail. But we still have some problems with rail failures. Accordingly, it appears necessary and desirable to engage in additional research on rail materials. I am informed that recent research done in England has identified some new rail steels which are yet proprietary and haven't been made available publicly. The advantage assigned to these new rail steels, as I understand it, is that they are substantially tougher than current steels used in this country. The tougher steels have the advantage that larger flaws are required before the rail will fail.

Q. Is there any process that you know of that will do the same thing that controlled cooling does—namely eliminate the possibility of transverse fissures?

A. Those transverse fissures associated with gases can be controlled by techniques other than the controlled-cooling process. Degassing of steels can be achieved by a variety of processes and any one of these will achieve essentially the same objective that controlled cooling does. At the request of some railroads we have under test in the laboratory a number of rails made by the vacuum-degassing process. The results are incomplete but there is promise that these materials will prove in tests to be the equivalent of controlled-cooled materials. I must qualify that remark,

however, to say that I'm not certain that our tests completely represent field experience. Therefore, I would not want to say at this point that the vacuum-degassed materials were exactly the equivalent of the controlled-cooled material.

Q. Suppose the results of research did indicate that vacuum-degassed materials were comparable to controlled cooling. What would the advantage be?

A. If vacuum-degassed steels were as good as control-cooled steels we obviously could skip the controlled-cooling operation. This would make it possible to eliminate that deterrent to a change in rail length. There are some people in the railroad industry who encourage the production of longer lengths of rail. There are others who say all the handling equipment is now set up to deal with 39-ft lengths and that welding is a relatively inexpensive and effective process which is a complete alternate and an adequate substitute for longer rails. So, in the industry there is some lack of agreement as to whether longer rails are necessary.

Q. What about classification yards? Is there any opportunity for improvement there through research?

A. The Research Consulting Committee and my independent studies suggest that we do have very real opportunities to study the classification-yard problem and to make a contribution to its solution. The classification yard exists because of our current concept of railroad operations. The reason that highway trucks don't go through classification yards is that a truck generally contains a single load which goes from origin to destination without any distribution of that load required. Railroad operations are based on the assumption that a train of cargoes with varied destinations will be moved to a point at which the train will be disassembled and reassembled in order to facilitate movement of the cargoes.

I know there have been improvements in classification yards through automation and other techniques for the acceleration and retardation of cars. But these techniques are based on the operation of the classification yard exactly as it was operated some decades ago. The real challenge to the classification yard is offered by preblocking, the introduction of unit trains, and other approaches to railroad operations that reduce the extent to which the classification yard is essential. Accordingly, research aimed at a study of the function the classification yard performs, and other approaches that will achieve the same result, could have a significant affect on classification yards. I have asked one railroad, on behalf of the industry, to develop a comprehensive statement of research appropriate to the classification-yard problem. This is a technique I am using in other areas as well.

Q. What plans do you have for the AAR Research Center at Chicago?

A. The Research Center has been in existence for quite a long time and has built up a staff and equipment admirably suited to important functions in the industry. I recognize, however, that some of the problems facing us require a breath of talent that we can't hope to support within our present or foreseeable budget. The AAR research program, therefore, will be conducted in part in our facilities in Chicago and in part on a contract basis.

We have just reorganized the Research Center into a Research Division and a Test Division to permit more effective administration of those functions. In the Test Division, which is a very important function, we will be performing tests on suppliers' products with charges made for services to the suppliers, as has been our pattern in the past. We will be testing some components for railroads—such as failures that they wish studied—and when these are of a routine nature we will be charging the railroads for that service. We will also be providing technical service for various committees of AAR. This will include compilation of data on failures and study of equipment in preparation for new specifications.

In the Research Division we are going to identify a few specific projects for next year. We are very close to the final selection of those projects. We will pursue these with the staff that we have in-house. The facilities in Chicago can accommodate a substantially larger staff than we now have there and I expect the staff to grow to some extent.

However, as I indicated, I do not expect to perform all AAR research in the Chicago Research Center because the range of requirements on us exceeds the capability of anything less than the variety of talent found in a 1,000 or 2,000-man organization. Therefore, we will be dependent on the Chicago Research Center for a significant fraction of our work. But we also will be contracting externally for some specific programs and projects.

Q. I understand the Japanese have a large railroad research laboratory manned by perhaps in the order of 700 people. Do you feel there is any possibility or a need for such an organization in the United States?

A. I have not visited the Japanese laboratory but my associates in the industry have been there on several occasions and have commented favorably on the quality of the work and the qualifications of the people engaged in that work. I did visit the British rail research laboratory in Darby, England, which has about 1,000 people on its staff and is a brilliantly led research activity by any standards. I believe, as the Federal government takes on a larger role in support of railroad research, that we may end up in the Transportation System Center in Cambridge with a few hundred people engaged full time on railroad programs.

I cannot believe, however, that in the private sector of our industry we will see such a large aggregation of researchers in any central place. The explanation, I think, is obvious. In Japan and England they have nationalized railroad industries, and a central laboratory can be a very important device for achieving efficient and effective conduct of research and its translation into operational needs. In this country, with several scores of railroads and an even larger number of suppliers, it is necessary that we have a somewhat more fragmented approach to research. I think we are organized differently in terms of the way the industry is managed and administered and I think our research program and organization involves a different pattern.

Q. In your opinion, what is the future of the railroad industry in the United States?

A. I believe the railroad industry has a bright future. I joined the industry recognizing that it was faced by serious economic and organizational problems. I conclude after my brief stay in the industry that it is a very efficient form of transportation. The energy required to move a ton-mile of cargo is a small fraction of that required to move a similar increment of cargo by any other

(Continued on page 57)

How laser beam increases accuracy

Because of its special properties the laser beam has been adapted to many applications in surveying and construction, including the drilling of railroad tunnels. It was only a matter of time until some use would be found for it in track maintenance.

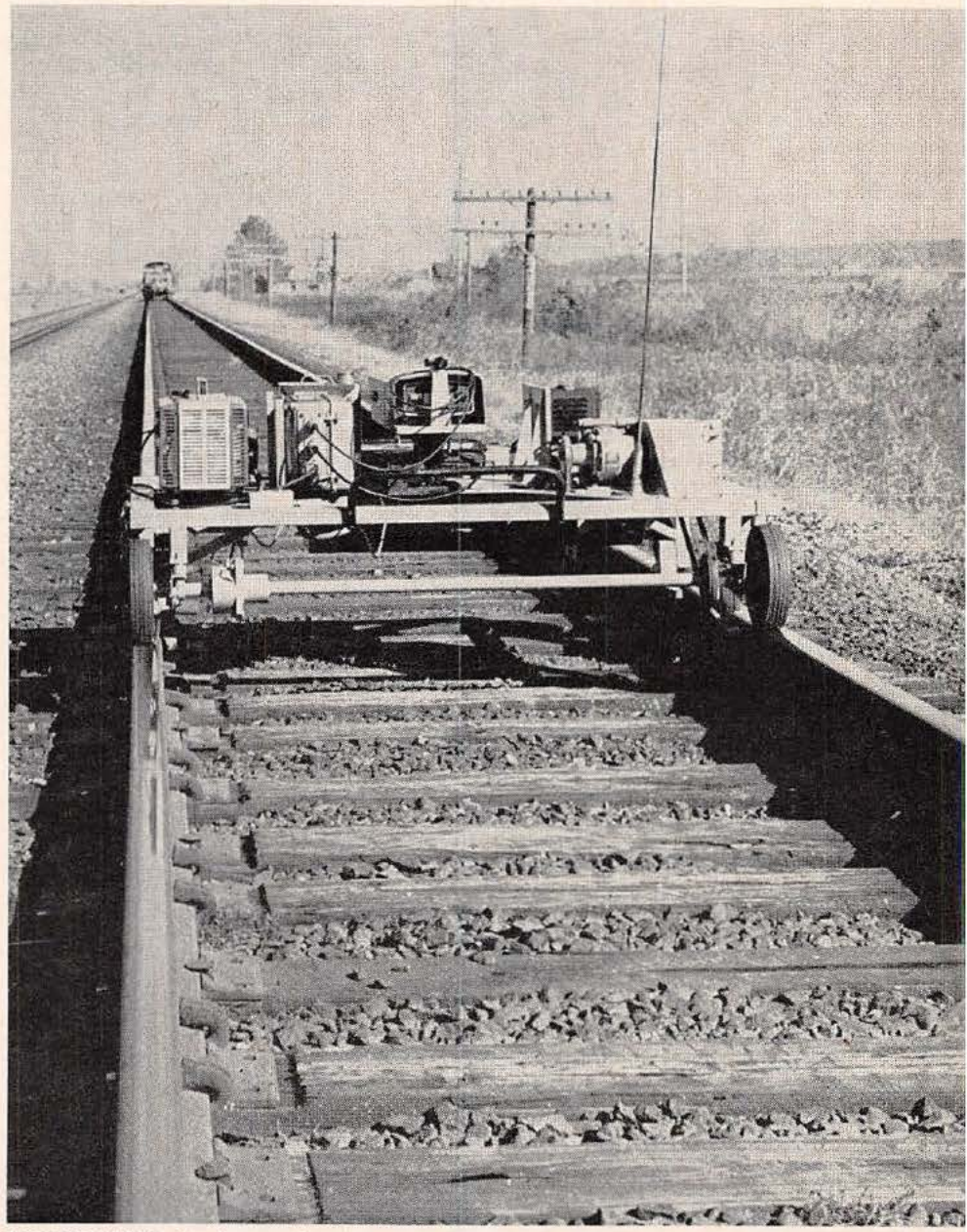
This has now happened. The laser beam has been adapted to the correction of irregularities in the alignment of tangent track. The adaptation has come through using the beam to actuate the automatic features of track-lining machines.

• **"Sighting" distance extended.** Use of the laser beam for this purpose is claimed to have the advantage that it permits the "sighting" distance for the lining machine to be greatly extended, even up to several thousands of feet. It thus becomes possible, it is said, to obtain perfectly straight track throughout the distance in which the automatic controls of the lining machine, or tamper-liner, are locked into the beam.

Operations of the laser-controlled equipment were seen on the Missouri Pacific where it was being demonstrated. For this purpose, a Plasser Universal 16-tool tamper-liner, owned by the railroad, had been adapted for control by a laser beam, generated by equipment introduced into this country by the Plasser American Corp.

The track-lining function of the Plasser Universal tamper-liner is automatically controlled by what the manufacturer calls the two-chord system. The two chords are in the form of two lengths of wire underneath the machine between the rails. One chord is 72 feet long and the other has a length of 42.5 feet. Automatic controls of the track-lining equipment on the machine are actuated by devices that function on the basis of a mathematical relationship between the two chords. Errors in alignment on both tangents and curves are detected and corrected.

Lateral forces for moving the track one way or the other to make corrections in alignment are applied to the track by rollers that engage the rails underneath their heads. Forces for lifting the track to make corrections in grade are applied through these same rollers.



TAMPER-LINER (background), with control mechanism locked into the laser beam, works toward the buggy carrying the laser-beam "cannon."

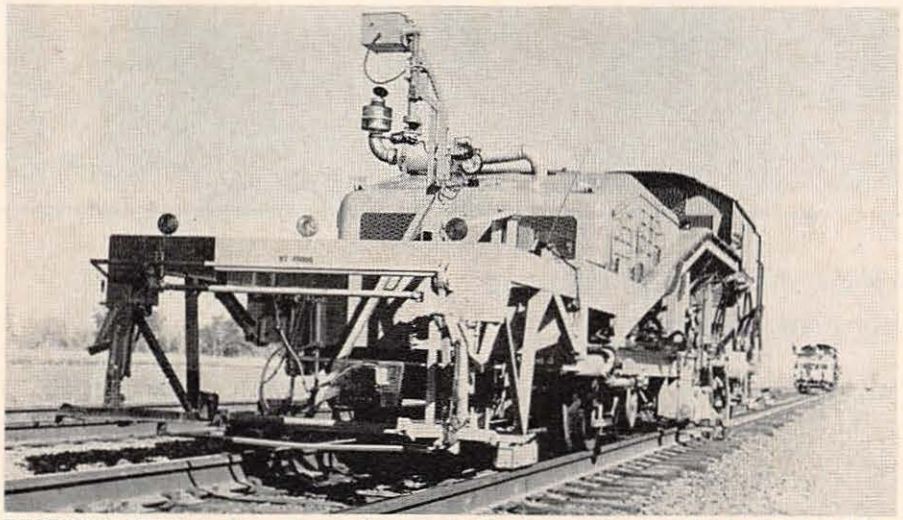
• **Buggy carries laser "cannon."** Adaptation of the laser beam for controlling the automatic lining operation was motivated by a desire to extend the "sighting" distance on tangent track far beyond the 72 feet on which the controls have heretofore been based. To accomplish this, a laser "cannon" is mounted on a four-wheel, self-propelled buggy that is positioned on the track the desired distance ahead of the tamper-liner, with the cannon directed backward toward the machine.

The laser beam is generated by applying electric current to a mixture of helium and neon gases in a tube 18 inches long. The beam, initially in cylindrical form, is converted into a vertical plane before leaving the cannon. Thickness of the plane is ¾ inches. and the vertical angle is 20 degrees.

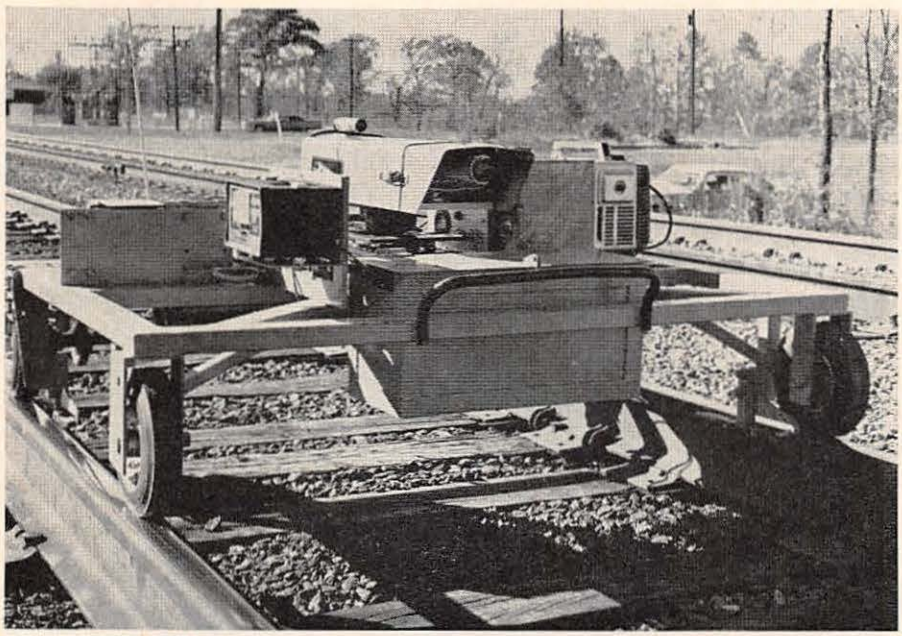
The cannon is mounted on the buggy so as to be in the center of the track. Means are provided in the wheels of the buggy to position the cannon with respect to whichever rail is being used as the line rail.

• **How laser beam controls lining.** Equipment for converting the laser beam into a means for correcting er-

# of alignment on tangent track



RECEIVING UNIT for laser beam is mounted in frame attached to front end of the tamper-liner. In background is second Plasser tamper working in tandem.



SELF-PROPELLED BUGGY carrying the laser-beam "cannon" may be remotely controlled by radio from tamper-liner. "Cannon" is mounted to be in center of track.

rors in alignment is mounted in a frame attached to the front end of the tamper-liner. The purpose of this equipment is to align the long chord with the laser beam. Its main feature is an optical-electronic receiving unit containing a series of photo-electric cells arranged in a horizontal row. By means of an electric motor the receiving unit may be caused to move to the right or left to keep the photo-electric cells centered on the laser beam.

Since the long chord is connected directly with the receiver it moves in harmony with that unit, and in so doing causes the automatic lining feature of the machine to be actuated. In other words, the front end of the long chord follows exactly the laser beam, which results in the track being shifted as necessary to correct errors in alignment.

When the laser-equipped tamper-liner was seen in operation it was working on a double-track section of the MoPac's Illinois division south of Dupo, Ill. Here, in a 20-mile stretch, the equipment was engaged in surfacing and lining both main tracks. Equipment included a second Universal unit working in tandem behind the head machine. The latter, which was making a raise of 1½ inches and lining the track, was tamping every third tie, with the rear machine tamping the remaining ties.

• **Foreman's experience.** At the time of the visit the demonstration had been under way for about three weeks. The foreman reported that during this period he had learned that the ideal distance for spotting the buggy was 1,500 feet to 2,000 feet ahead of the tamper-liner. In this way, track throws were kept within the capability of the machine, which is 4½ inches, according to the manufacturer. Actually, from the standpoint of its operational ability, the buggy could be spotted a much greater distance ahead, said the foreman. The tamper-liner works along the laser beam to a point 30 to 40 feet from the buggy before it is stopped to allow the buggy to be moved forward.

When moving the buggy ahead from one setting to the next the foreman's practice was to switch on the propelling motor and then to walk along beside the unit. However, the buggy can be equipped with a remote-control feature so that the forward movement can be controlled from the tamper-liner.

• **What happens at curves.** When approaching a curve the buggy is spotted at the point of curve and the track is lined up almost to that point. The two-chord system then takes over to make necessary corrections around the curve and its spirals.

The foreman reported it had been his experience that the machine was finding and correcting defects in alignment that could not be observed by eye.

Top engineering officers of the MoPac express themselves as being pleased with the performance of the laser beam in that it improves the alignment on tangent track along with correcting long line swings that cannot be corrected with the shorter two-chord system operating by itself.

The manufacturer notes that the laser beam is used widely in industry and elsewhere for survey purposes and points out that it is harmless to skin and eyes. ■

Get aboard the big AREA Meeting Special with the industry's top reporters

These four and other top Railway Age and Railway Track and Structures editors will be serving up the news for the annual American Railway Engineering Assoc. meeting at the Sherman House, Chicago, March 15, 16, and 17. There will be AREA meeting features, reports on the use of mechanized methods and equipment in maintenance of way and structures, a round-up of new engineering products and equipment. Both magazines will have extra distribution at the meeting. And this year the reports on roadway will have special importance. . .

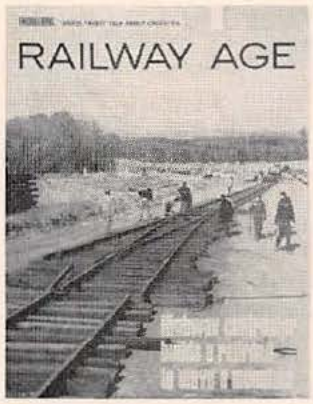
With the spotlight on roadway, the time is right

The new Federal Railroad Safety Act of 1970 is the first comprehensive rail safety law of this century. It puts great new emphasis on track maintenance.

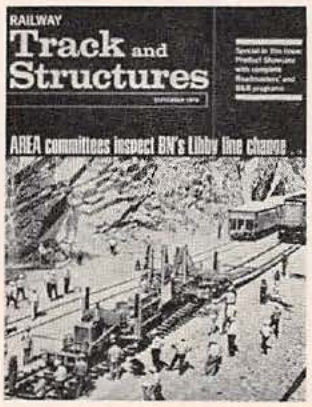
AAR's new "Recommended Standards for Track Maintenance". For the first time, the association's member roads have been handed a set of specific standards.

The new ASTRO recommendations on right-of-way maintenance include: 1) Creation of a Federal Transportation Fund; 2) Establishment of a loan-guarantee program; 3) Allowing roads to amortize cost of grading and tunnel bores; 4) Restoration of rapid tax amortization; 5) Inclusion of railroads among those elegible for Federal assistance following a natural disaster.

The March Product Showcase will be bound into the two magazines you need to cover this vital market



Railway Age is a horizontal management semi-monthly that reports and interprets developments broadly interesting to all (in not-too-technical language). It gives you both a railroad's general management and the upper levels of its Engineering Department management.



Railway Track & Structures is a technical monthly —a specialized, vertical, departmental publication. It gives you the Engineering Department's top management and the men on its lower management and supervisory levels. It talks their special language.

Take advantage of this bargain opportunity

The March Product Showcase will be bound into the March 8th issue of Railway Age and the March issue of Railway Track and Structures. Together, they will give your advertising full management coverage, deep specialized coverage in the Engineering Department - and *double the impact* at the highly important level where middle management and specialized Engineering Department administration overlap.

Rates for the double-barreled Product Showcase may be constructed by combining the earned rate in RA with the earned rate in RT&S, less 10% Industry Marketing Rate. If a second color is used, the color charge will be based on the Railway Age, color rate **only.** There will be **no color charge** for RT&S.

Closing dates: RA- February 22nd; RT&S- February 10.

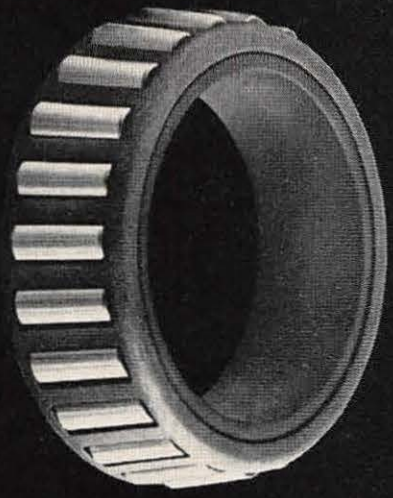
The Railway Age Group, 350 Broadway, N.Y.C. 10013.

BART cars ride on Brenco Bearings.

BART, San Francisco Bay Area Transportation, is more than a rapid transit. It is a transportation system that will open up employment and educational opportunities to underprivileged communities by providing greater mobility for citizens of isolated areas. BART cars are the most advanced rapid transit cars in the world... light, high-speed, low-maintenance... built by Rohr Corporation with Rockwell trucks and using the most modern tapered roller bearings available today... BRENCO.

Brenco Incorporated, Petersburg, Virginia.

BRENCO Tapered Roller Bearings



BRENCO

"Each copy has a 'required reading' routing slip"

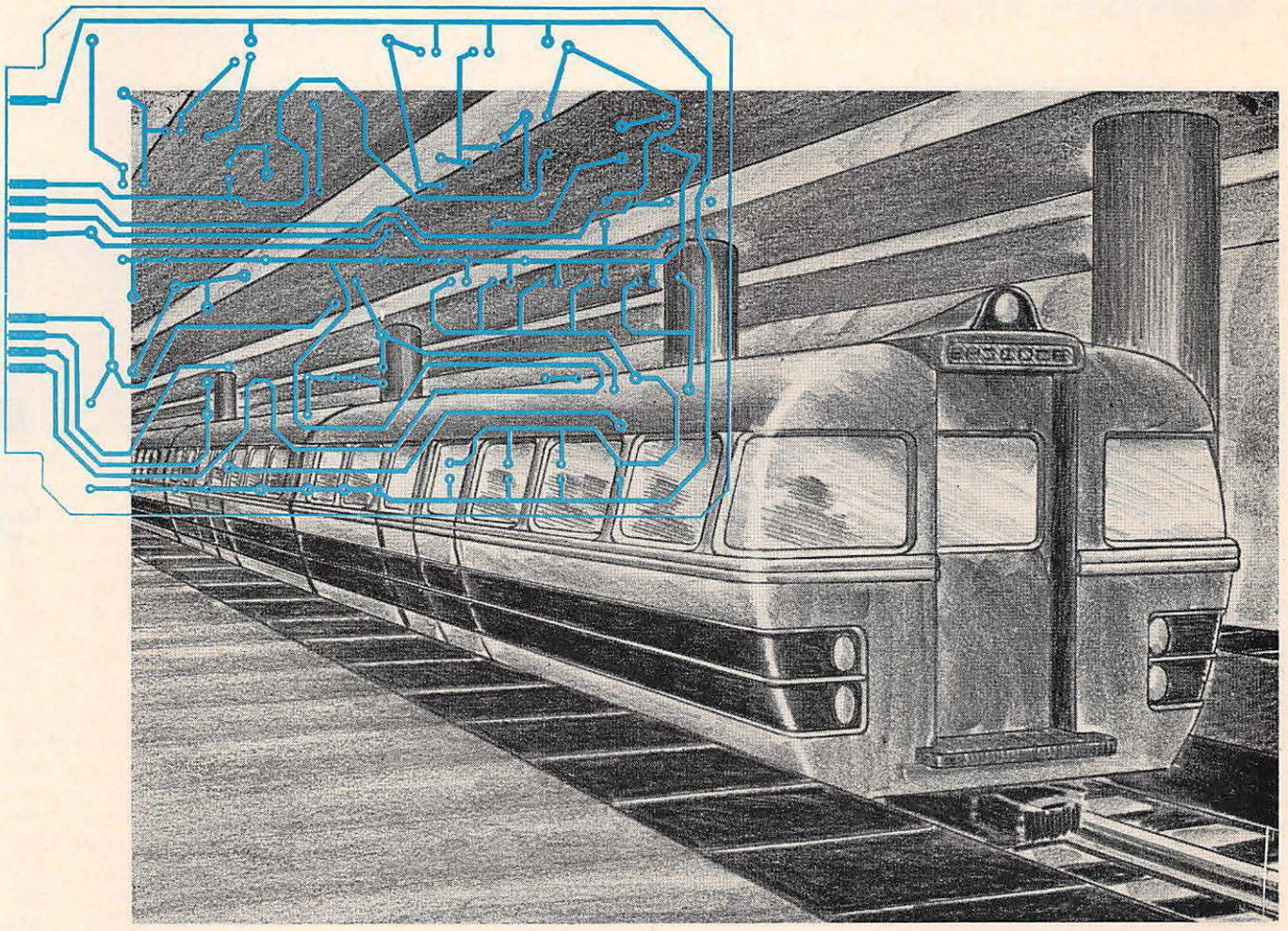
I expect the members of my staff to be as fully informed on railroad matters as I try to be. So all of us read Railway Age, which provides much interesting as well as useful information. That is why each Department of the Long Island Railroad is provided with its own copy - and each copy has a "required reading" routing slip.

Walter L. Schlager, Jr.
President

RAILWAY AGE AS SEEN THROUGH THE EYES OF RAILROAD PRESIDENTS— NO. 2

The Long Island Rail Road

BASIC HARDWARE



...COMPLETE SYSTEMS

GRS covers the entire rapid transit field.

Look to GRS for *all* your rapid transit signaling needs—not only complete systems, but also basic hardware items—everything you need to satisfy present and future requirements.

- Essential hardware items—signals, switch machines, control consoles, and a host of other devices.
- Custom-engineered, solid-state control systems on any level of sophistication—from simple speed control to complete automation.

With GRS, you get systems that ensure high-speed travel with absolute safety and reliability—systems that are based on well over half a century of rapid transit experience.

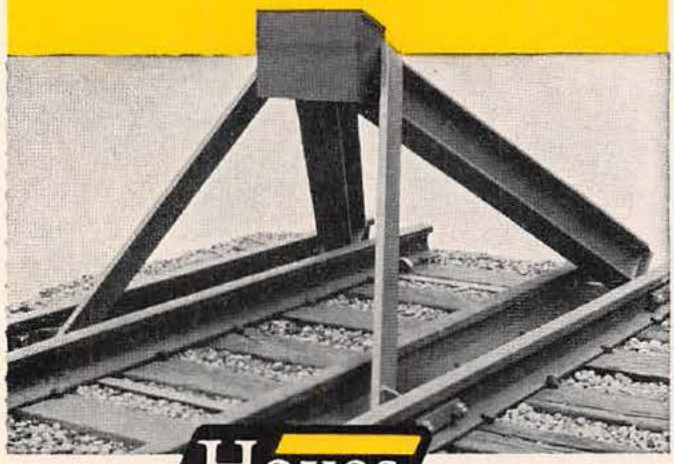
MEMBER RPI RAILWAY PROGRESS INSTITUTE 3450

GENERAL RAILWAY SIGNAL COMPANY
A UNIT OF GENERAL SIGNAL CORPORATION

ROCHESTER NEW YORK 14602 ATLANTA BOSTON CHICAGO MONTREAL NEW YORK OAKLAND ST LOUIS ST PAUL

Circle 14 on coupon page 51

Save money 3 important ways



with Hayes Type WD

all steel BUMPING POSTS

1 **MADE TO SWITCH AGAINST**—Switching against the Type WD is done with the same freedom as in coupling. The WD bumping post is not merely an emergency device but a useful tool created to speed switching and reduce man hours. Informed switching crews use it.

2 **PREVENT EXPENSIVE TRACK-END DERAILMENTS**—A Hayes Type WD installation invites movement toward the track-end at the fastest speed consistent with the safety of the equipment and lading. Slow, careful and expensive "inching in" is a thing of the past.

3 **SAVE VALUABLE PROPERTY**—A Hayes Type WD is one of the strongest, most effective track-end stopping devices built on a production basis. Only Hayes *all steel* bumping posts say "stop" so emphatically. Only Hayes *all steel* bumping posts protect property so well.

Free! Ring Binder catalog provides complete details! Write today!

OTHER HAYES PRODUCTS

DERAILS

WHEEL STOPS

HAYES TRACK DIVISION

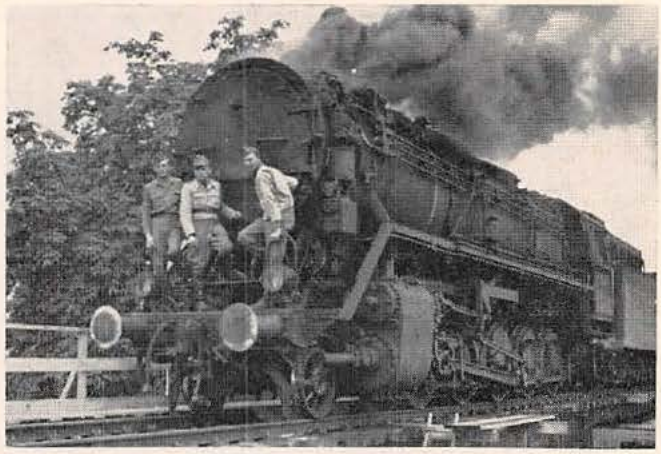
FEDERAL SIGN & SIGNAL CORPORATION

RICHMOND, INDIANA 47374

Call us "The FUTURISTS" (It's a name we enjoy living up to!)

Circle 15 on coupon page 51

BOOKSHELF



STEEL RAILS TO VICTORY, by Ron Ziel. (Hawthorn Books, Inc., 70 Fifth Ave., New York, N.Y., 10011, $14.95.) Since World War II a plethora of railroad literature has appeared covering everything from major railroad histories to lumber operations in the big woods, and then some. It is high time someone recorded the significant role railroads played in World War II. That is what Ron Ziel's newest book is all about. Not the part the roads at home performed, but those at the fronts in Europe, Africa and the Pacific, and on such remote supply lines as the Iranian State Railways and the White Pass & Yukon. Railroads first figured importantly as military adjuncts in the War Between the States. Probably World War II marked the apex of their service career, though not, of course, their importance as prime movers for war-related industries and as defense pipelines. Sophisticated automotive equipment and aviation developments, especially the helicopter, provide new capabilities for front line logistics. Ziel's book is a photographic history with text limited to extended captions. The photos are from widespread sources (one of them is reproduced above). Many are previously unpublished. Steel Rails to Victory belongs in every public library and on the bookshelves of all serious railroaders.

METRO BIBLIOGRAPHY (International Union of Public Transport, Avenue de l'Uruguay 19, B-1050 Brussels, Belgium; 200 pages; softbound). This bibliography on metropolitan railways throughout the world—planned, under construction, or in operation—has been assembled from literature published in the years 1967, 1968 and 1969. It supplements an earlier bibliography published in 1966. The references are arranged geographically, in French, English and German.

THROUGH COVERED BRIDGES TO CONCORD, by Edgar T. Mead, Jr. (Stephen Greene Press, Brattleboro, Vt. 05301; 56 pages; photographs, maps, drawings; $4.50). Subtitled "A recollection of the Concord & Claremont RR (NH)," this handsome little volume relates the history of the C&C from its origins in the early part of the 19th century. It is chock-full of the detail guaranteed to delight anyone interested in railroading, especially as practiced in the northeastern segment of the United States. The book, seventh in the publisher's Shortline Railroad Series, records the trials and tribulations of building and operating a railroad in the rugged New Hampshire countryside. One of the highlights is the description of a complete Concord-to-Claremont trip taken by the author in a two-car train hauled by Mogul No. 1490, when the C&C was the Claremont branch of the Boston & Maine.

People

W. Jerome Strout
BAR

Alan G. Dustin
BAR

J. Bruce Addington
PC

A. B. McKinnon
Southern

BANGOR & AROOSTOOK.—F. C. Dumaine, chairman of the Executive Committee, became chief executive officer on Jan. 1. Mr. Dumaine is also president of **Amoskeag Co. W. Jerome Strout,** president and chief executive officer, BAR, appointed cha'rman of the board of directors. The office of president will not be filled. **Alan G. Dustin,** BAR vice president and assistant to the president—railroads of **Amoskeag Co.,** appointed executive vice president of the railroad, with responsibility for the day-to-day operations of the road. Both Strout and Dustin will continue to make their headquarters in Bangor, Me.

NATIONAL OF MEXICO.—Lic. Victor Manuel Villasenor appointed general manager, succeeding **Ing. Eufrasio Sandoval.** Villasenor was formerly general manager of the **National Railway Car Construction Co.** at Sahagun.

PENN CENTRAL.—J. Bruce Addington, assistant vice president—operations, **Southern,** Atlanta, Ga., appointed vice president—operation, PC, Philadelphia, succeeding **Robert G. Flannery,** who resigned to become executive vice president, **Western Pacific** (RA, Dec. 14, pp. 46, 47).

Robert W. Carroll, senior assistant secretary, appointed secretary, succeeding **Bayard H. Roberts,** who retired Jan. 1.

George E. Williamson, transportation superintendent, Harrisburg Division, promoted to superintendent, Toledo Division.

SOUTHERN.—Arnold B. McKinnon, assistant vice president—law, promoted to vice president—law, Washington, D.C. He will report to **James H. McGlothlin,** executive vice president, Law and Finance.

During our two decades of growth

BURLINGTON NORTHERN

Has made 19 commitments for

440

INTERNATIONAL CABOOSES

Many railroads have recognized International *quality* over our 20-year history. Consistent, repeat orders from Burlington Northern is one example. Others? Chicago, Rock Island & Pacific placed 8 orders for 212 caboose cars and Gulf, Mobile and Ohio 10 orders for 64 cabooses. We appreciate this evidence of confidence and pledge ourselves to continue to build safer, more comfortable, more serviceable cars as the years go on.

International Car Co.

835 Englewood Ave./Buffalo, New York 14223
Representatives: M. H. Frank — Cleveland, O. • Prest Company — St. Paul, Minn. • R. B. Hornberger — San Francisco, Cal. • F. E. Ross, Jr. — St. Louis, Mo. • E. J. Hasten, Jr., W. B. Reed — Chicago, Ill.

A Part of Nationwide Industries, Inc.

MEMBER RPI

Circle 16 on coupon page 51

		Total cost	Federal share
City of Philadelphia **(Cont. from page 27)**	Extend and improve Market St. subway	4,809,000	3,206,000
	Modernize 6 subway stations	2,700,000	1,800,000
	Eastwick high speed surface line	1,720,000	1,146,666
	Study plans, specifications for airport link	500,000	333,333
	Modernize 75 subway cars	525,000	350,000
	Provide subway communication systems	290,000	193,333
City & county of San Francisco	Construct Embarcadero Transit Station and tunnels	$ 68,000,000	$ 25,000,000
San Francisco Bay Area Rapid Transit District	250 rapid transit cars; construction to complete rapid transit line	96,724,000	40,006,000
Southern California Rapid Transit District	Establish a mass transit facility; rail and bus	$ 36,912,000	$ 18,946,000
Massachusetts Bay Transportation Authority (Boston)	Dover Street transportation facility	$ 35,606,710	$ 20,286,670
	Construct South Shore Line; buy 76 cars; construct North Braintree station and road	28,179,700	18,786,467
Lake-Porter County Regional Transportation & Planning Commission	34 electric rail cars for Chicago South Shore & South Bend	$ 9,000,000	$ 6,000,000
Federal Railroad Administration (Wyle Laboratory, Huntsville, Ala.)	Wheel-rail dynamics laboratory at Pueblo, Colo.	$ 7,616,000	$ 2,500,000
City of Blue Island (Illinois)	Construct commuter convenience center to serve stations of the Rock Island	$ 5,770,490	$ 3,846,993
Southeastern Pennsylvania Transportation Authority	Rehabilitate and modernize several Philadelphia subway stations	$ 5,000,000	$ 3,333,333
	Construct parking facilities at commuter railroad stations	2,000,000	1,333,333
	Buy wheel truing machine	534,000	356,000
	Purchase railroad car washer	180,000	120,000
Metropolitan Atlanta Rapid Transit Authority	Develop improved transit plan	$518,000	$345,333
Connecticut Department of Transportation	Test rail-bus service in Hartford area	$405,000	$270,000

BART will roll in 1971

(Continued from page 25)

continue their journey downtown by subway."

A real estate blight? Reports Paterson: "A study of assessment values made in 1959 showed that in 14 areas adjacent to the subway, the assessment increased 45.2% as compared with an average increase of 32.8% in the remainder of the city. Some of the areas adjacent to the subway increased 75%."

Paterson adds: "The subway has created valuable air rights over its own right-of-way. About one and one-half miles of the Yonge Street subway is located on off-street alignment. The total cost of acquiring the required property was about $4 million. This cost has been recovered from the sale or lease of building rights, and the community has recovered many times over the value of the assessment removed from its tax rolls. At the present time, long-term leases of air rights are producing annual revenues of about $750,000."

Paterson notes that the Toronto Real Estate Board reported recently that "the appraised value of all the land and facilities in Metropolitan Toronto is now $50 billion. Fifteen billion dollars of this appreciation in physical value has been added in recent years, and two thirds of this is attributable to the existence of the Yonge Street subway . . . In the past five years, 50% of all high rise apartment development in Toronto occurred in four planning districts. The Yonge Street subway runs through the center of each of these planning districts."

A few years ago, there was considerable talk about far-out, "Buck Rogers" technology taking over in the transit field. Today there is a general feeling that the duo-rail method is here to stay.

In a recent prospectus outlining proposed extensions of Montreal's urban transit system, the Executive Committee of the Montreal Urban Community discarded the idea that monorail, tracked air-cushion vehicles, individual electric vehicles or the vacuum-gravity train would soon replace traditional rail transit. "Even perfected, certain of these means of transport will have to be rejected because they do not meet similar capacity and flexibility requirements," commented Lucien Saulnier, chairman of the committee. "Others are so cumbersome they would have to be eliminated in order to protect the urban evironment. In any case. it would be hazardous to take chances in the transport field with means not proven.

NEW!

RAILS COMPANY
HAB-HP
SWITCH HEATERS

Proven in use
at sub zero temperatures

High pressure blower distributes hot air steadily, evenly, through a duct and nozzles—keeps switch points operating in all weathers.

All components located for easy installation and servicing—separate remote control panel is free from trackside vibration. Hot air duct is electrically insulated against track circuit interference and designed to provide maximum air flow.

Manual or automatic operation. Oil fired, natural gas or propane models available.

Write or call for detailed information.

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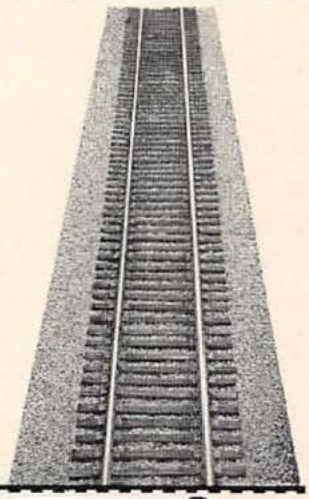
Chicago, Ill. 60604 • San Francisco, Calif. 94105
In Canada: IEC-Holden, Ltd.

SERVICE TESTED FOR DEPENDABLE OPERATION.

Circle 17 on coupon page 51

SPENO

You are on the Right Track to Lower Maintenance Costs



WHEN YOU

USE SPENO SERVICES

"Ballast Cleaning"

"Rail Grinding"

"Just Ask the Railroads That Use Our Services"

Frank Speno Railroad Ballast Cleaning Company, Inc.
306 North Cayuga St., Ithaca, New York 14850
Clark St. East Syracuse, New York Box 219 13057

Speno International, S. A.
22 Parc Chateau Banquet, Geneva, Switzerland.
(For Operations Outside the North American Continent)

MEMBER RPI

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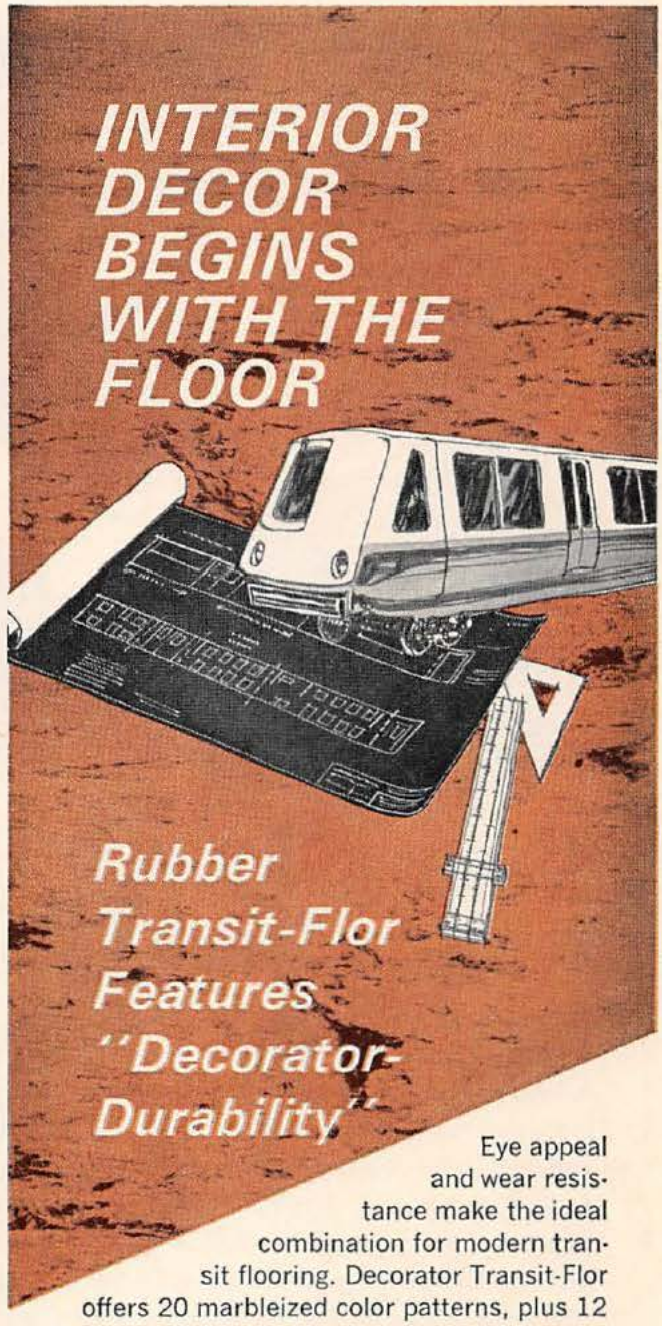
Montreal, 376 P. Q. Canada

Circle 18 on coupon page 51



Eye appeal and wear resistance make the ideal combination for modern transit flooring. Decorator Transit-Flor offers 20 marbleized color patterns, plus 12 terrazzo styles, to blend or contrast in new or existing interiors. Low-maintenance rubber stands up to grueling wear, foul weather . . . and even supplies best resistance to cigarette scorch. Rubber's natural resilience provides underfoot safety . . . in double-grooved rib or smooth surface flooring. Step treads come in blending or matching colors.

Write for prices and FREE color samples

THE R.C.A. RUBBER COMPANY

an Ohio Corp. of Akron, Ohio

1833 E. Market St., Akron, Ohio 44305
The Leader in Rubber Transit Flooring & Step Treads

Circle 19 on coupon page 51

Casey Jones never had it so good.

No wonder Casey was in such a hurry! His only alternative was an unsanitary, unpleasant railroad toilet. Now there's a sensible, simple, low-cost replacement for those old-fashioned units — the radically different Monogram Model 12800 NEW-matic flushing toilet. Easy to install — it's completely self-contained and runs on your existing air system. Needs no electricity, no holding tank, no separate water supply. Easy to maintain — needs only monthly servicing. Immune to freezing temps and has only ONE moving part for years of trouble free service. Odorless, silent, clean. Send today for more information on the dependable NEW-matic — a sure, economical way to solve your sanitation problems.

MONOGRAM INDUSTRIES, INC. Venice Division

Model 12800

Monogram Industries, Inc.
3226 Thatcher Ave., Venice, Calif. U.S.A. 90291
Please send brochure on Model 12800 NEW-matic toilet.
Name
Firm
Address
City
State
Zip

Circle 20 on coupon page 51

SUPPLY TRADE

C. W. Plunkett
Jackson Vibrators

W. Stuart Johnson
Brenco

C. W. Plunkett, vice president, railroad sales, **Jackson Vibrators, Inc.,** has been promoted to executive vice president, railway products. Mr. Plunkett will supervise production and sales of Jackson's railway products; be in charge of the company's Ludington, Mich., production center, and the **O. F. Jordan Co.,** East Chicago, Ind.

W. Stuart Johnson, executive vice president, **Brenco Incorporated,** Petersburg, Va., has been elected president, succeeding **W. Moyar,** who retired Dec. 31.

TRANSIT

James G. O'Donohue has been appointed general attorney, **Chicago Transit Authority,** to succeed **George J. Schaller,** who retired upon his election as judge of the circuit court of Cook County. Mr. O'Donohue is a partner in the firm of **O'Donohue and Murray.**

James R. Maloney, corporate financial executive, has been named assistant project manager, Early Action Program, **Port Authority of Allegheny County,** Pittsburgh, Pa. The program is the first step in the creation of a 60-mile system of rapid transit to serve Allegheny County. **Robert McKenzie** has been named real estate manager, Early Action Program.

Rodger H. Feahr, superintendent of transportation, **Joliet City Lines,** Joliet, Ill., has joined the public transit division, **Wilbur Smith & Associates,** Columbia, S.C.

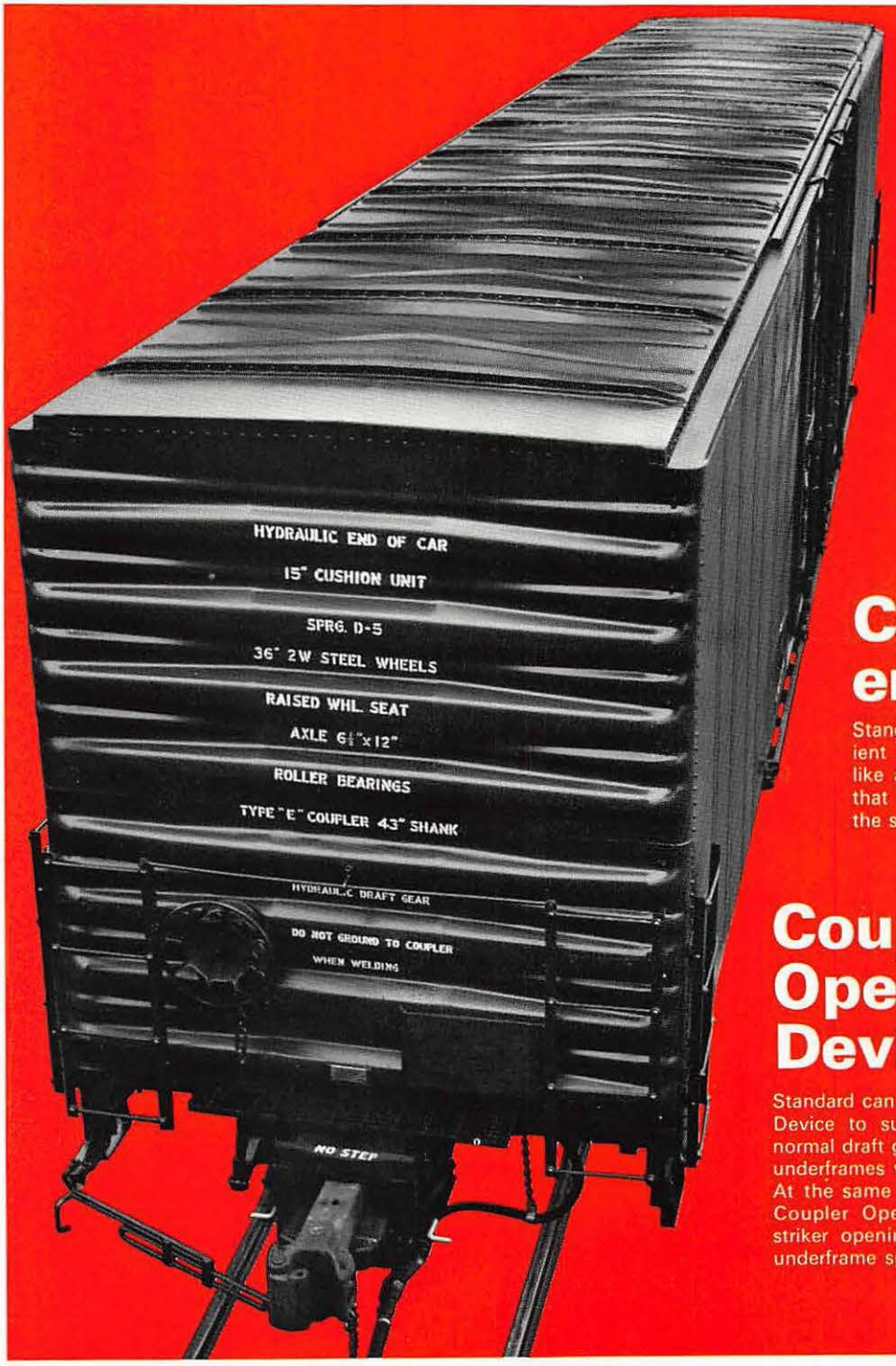
William J. Walker has been named manager of markets and engineering for the new **WABCO** Monorial Division, Wildwood, N.J. Mr. Walker will join the new division as soon as he can complete his present assignment as manager of transit markets in the Pittsburgh-based WABCO Mass Transit Center.

OBITUARY

Raymond J. Maxwell, 73, retired director of public relations and advertising, **Missouri Pacific,** died Dec. 27, 1970, in Missouri Pacific Hospital, St. Louis.

Caleb R. Megee, 82, retired vice president, Car Service Division, **Association of American Railroads,** died Dec. 8 in Washington, D.C.

Put Stanray components where the stress is, and lengthen box car life



X-Panel roof

Two of the greatest stresses a box car roof is subject to is twisting and racking. The X-panel roof is designed to provide maximum resistance to these stresses at minimum cost. Standard's new roof has panels 61½" wide instead of the normal 41", which result in approximately 33% fewer seam caps. It also means less chance of leakage.

Corrugated ends

Standard's Corrugated Ends have a resilient construction that produces spring-like action under impact, and a strength that is greater than other designs using the same thickness of metal.

Coupler Operating Devices

Standard can furnish a Coupler Operating Device to suit any coupler travel from normal draft gear conditions to cushioned underframes with as much as 60" travel. At the same time, Standard furnishes a Coupler Operating Device to suit any striker opening required for the custom underframe specified.

STANDARD RAILWAY EQUIPMENT
division of STANRAY CORPORATION
Chicago, Illinois • Hammond, Indiana

Humble announces 'The Blivet'

It's like having an extra man on your rail curve lubricating crew.

We put 50 pounds of our VAN ESTAN® 10 rail curve lubricant in a handy poly bag. Packed it in a double-wall corrugated box. And came up with what has to be the greatest time-and-money-saver since the automatic lubricator.

Just slit the poly bag and squeeze. You get a pre-measured amount of grease with no mess, no waste and no back-breaking drums to handle.

The first railroad men to test Humble's handy bag-and-box nicknamed it "The Blivet." But there was no kidding about its savings.

2 men do the work of 3.

Before "The Blivet," one large Eastern railroad used to send a section car and trailer with a foreman and 2 maintainers to spot 400-lb. drums of grease near lubricators on mountain curves.

Today, a 2-man crew on the section car alone can do the whole job with a few Blivets.

Net saving: 1 man, 1 trailer. And no risk of vandals shooting holes in drums or rolling them onto the track.

Saves 7 ways.

Changing from conventional drums to "The Blivet" can:
1. Save application time. **2.** Reduce size of crew. **3.** Eliminate risk of personnel injuries. **4.** Save the 5-10 lbs. of lube that ordinarily stick to drum walls. **5.** Keep lubricators from being fouled by dirt that gets in drums. **6.** Save storehouse space. **7.** Eliminate handling of empty drums.

Clip the coupon and find out how easily "The Blivet" can banish old-fashioned drum troubles and expenses forever.

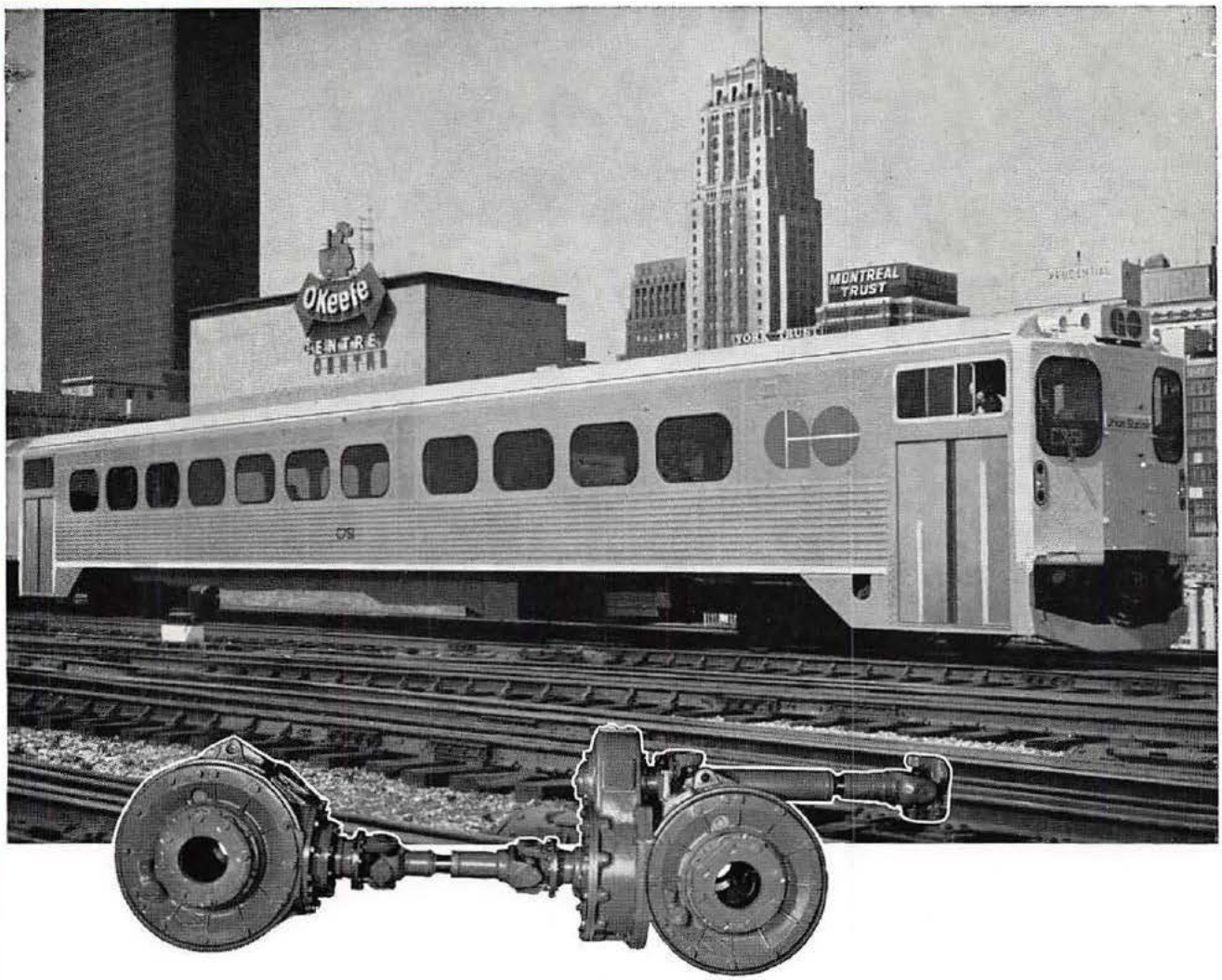
Humble Oil & Refining Company

ESSO

Humble Oil & Refining Company, Humble Building, Room 2455, Houston, Texas 77002
OK. Send me your super-packed information bulletin with money-saving facts and full shipping data on "The Blivet."

Name_____
Title_____
Railroad_____
Address_____
City_____
State_____
Zip_____

"Safety" Traction Drives: the power of the 70's



When the Government of Ontario wanted '70 power for their "GO" cars, they picked Drives, manufactured by "Safety" at New Haven, Conn. For rapid transit car users, Safety traction motor drives offer these innovations: no field adjustment necessary; full cushion mounting; slip-free drive; larger ring gear; less pinion offset; increased oil capacity; load tested at the factory. They add up to seven good reasons to specify "Safety."

SAFETY ELECTRICAL EQUIPMENT CORP.

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supporting
ASTRO

New Products Report

Commuter brake (RA-1)

The PS-68 brake equipment, an electropneumatic system, is designed for either self-propelled or push-pull passenger equipment. Brake applications and releases are instantaneously initiated through the electric trainline circuits by an electric drum-type switch controlled by movement of the brake valve handle. These electropneumatic responses are backed up by conventional automatic pneumatic applications and releases. In event of an electric failure, the engineman has a pneumatic brake in effect without performing any additional operations.

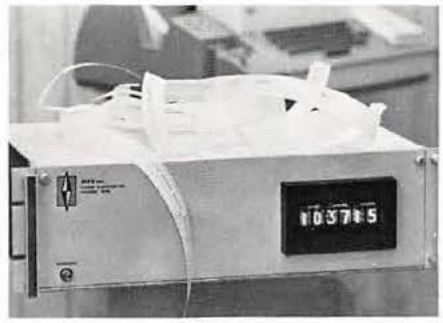
An electric holding feature built into the brake valve allows the brake system to be recharged after a brake application; with the valve handle in "holding" position the brakes remain applied while the system recharges. To simplify piping and facilitate maintenance, control devices are assembled in a package by mounting them on a manifold. The PS-68 incorporates all the safety features of the 26-L equipment and locomotives with PS-68 may be multiplied with other units having either 26-L or 24-RL equipment. *New York Air Brake.*

Soot remover (RA-2)

Through the use of SP, a non-explosive, non-toxic chemical, the efficiency of oil- and coal-fired boilers and incinerators can be greatly increased and operation costs drastically reduced, according to its Swedish manufacturer, Nitro Nobel AB. The light-grey, free-running powder is said to work by reducing soot build-up on heat transfer surfaces. This results in improved fuel efficiency, improved heat transfer, less maintenance down time, reduced corrosion, less frequent soot blowing and less air pollution. The chemical may be applied manually. The normal method is by the use of blowing appliances specially designed for its injection. Less than 4 oz of SP per ton of fuel is said to do the job. *American Associated Companies.*

Liquid cleaner (RA-3)

A new transportation and machinery cleaner called TRAM offers the grease-cutting powers of solvents yet is free from fire hazard. It lacks the toxicity of caustic cleaners and quickly removes oils and greases found on production machinery and transportation equipment. TRAM is recommended for any equipment that tolerates water, including locomotives, cars and small parts; fork lifts; trucks and buses. *Texize Chemicals, Inc.*



Code converter (RA-4)

The new model CC1010 code converter, when rack mounted, measures 19-in. wide x 10½-in. deep and 5¼-in. high. Upon command, the CC1010 converts the BCD output of a 24-hour digital clock to a serial ASCII code to drive various display or printing devices such as a Teletype model 33 or 35 printer. The CC1010 is all silicon solid state, excluding the clock display tubes, using the latest in integrated circuits. *Nationwide Electronic Systems, Inc.*

AC power unit (RA-5)

An automatic battery/converter system for applications requiring reliable standby AC power is available in 500 and 750 watt capacities. Batteries are sized to furnish up to 6 hours' continuous performance.

In the event of failure of normal AC power, the converter is instantly ener-

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gized, producing up to rated AC output within 1/2 second. When normal AC power is again available, the automatic transfer switches reconnect the load to the incoming AC—and deenergize the converter. Simultaneously, the battery charger is switched to its "high-rate" charging mode; when the 24-volt nickel-cadmium battery is fully recharged, the charger is automatically switched to its "float" charging mode to maintain the battery in a fully charged condition. *Nife Inc.*

Telegraph relay (RA-6)

A transistorized high-speed telegraph relay, designed to surpass in efficiency, speed and reliability standard mechanical polar relays in Teletype machines and central office telegraph repeaters is called model 538-A. This relay plugs directly into the type 255-A socket in any Teletype machine without modifications or wiring changes. As it has no contacts to arc, pit or require cleaning and adjustment, the unit is said to be maintenance free. It provides distortionless response at speeds up to 200 bits per second, and up to 400 b/s if a small amount of distortion can be tolerated.

The new relay performs like an electronic repeater and corrects large amounts of characteristic distortion.

This device is said to work equally well on any standard telegraph transmission line—two-level 10 and 30 ma, as well as neutral or polar 20, 30 or 60 ma.

Switching capabilities of the model 538-A are rated up to 500 volts DC and up to 2 amp, with a maximum switched output of 100 watts. *Trepac Corporation of America.*

Digital decoder (RA-7)

Applied to 2-way radio systems, the SD-40 digital decoder selects from 6,561 discrete codes to alert one individual of his calls. It sounds the horn, starts four-way flasher systems, opens a speaker and lights a call lamp so that even a unattended mobile unit gets the message. Additional memory is provided for an emergency "all-call" and up to 64 "group-call" codes in each SD-40. Code changes are programmed in the field. *Secode Electronics.*

Microwave system (RA-8)

A new solid-state microwave system operated in the 2 GHz band is designated the MR-200. The new microwave equipment is designed for transmission of up to 300 high-quality voice channels. The MR-200 equipment has built-in expansion capability for voice, data, or facsimile channels. It is designed so that remodulating repeaters can provide flexibility through baseband access for drop and insert channels at repeater sites. *Motorola Communications & Electronics, Inc.*

ESTIMATED NATIONAL TRANSPORTATION BILL
(billions of dollars)

	1964	1966	1968	1969(p)
Passenger bill	69.3	81.9	96.0	104.3
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TOTALS	130.0	150.6	173.0	188.4
Adjustments*	-.3	-.8	-.7	-1.9
ADJUSTED TOTALS	129.7	149.8	172.3	186.5
Gross national product	632.4	749.9	865.0	931.4
Transportation as a percentage of gross national productt	19.92	19.36	19.33	19.43

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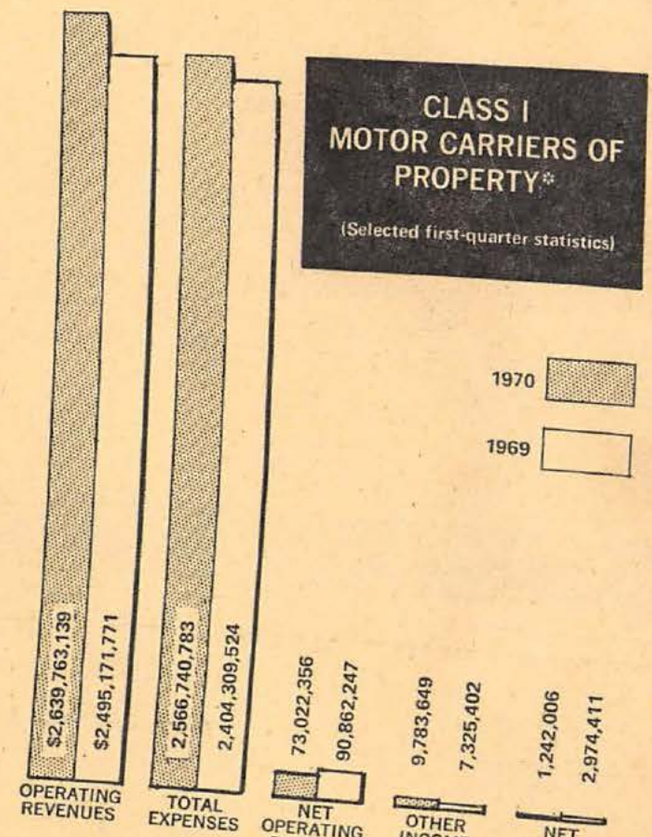
Source: Transportation Association of America.

CLASS I MOTOR CARRIERS OF PROPERTY*
(Selected first-quarter statistics)



*Carriers with operating revenues of $1,000,000 or more.
Source: Bureau of Accounts, ICC. Based on reports of 1,379 intercity carriers.

Viewpoint

Nixon: doer? just ther ?

Richard M. Nixon could well go down in history as the President who did more than mutter pious platitudes about the importance of an efficient surface transportation system.

Having successfully sponsored legislation that would (1) pour billions of dollars into urban mass transportation and (2) give the intercity railroad passenger a measure of the help that has long gone to air and highway travellers, the President would seem to be well on the way to this distinction.

But there remains the possibility that President Nixon, for all his patently good intentions, may yet join that dismal gallery of chief executives who have paid lip service—but precious few dollars—to the proposition that there is more to the science of moving people than cramming more jets into already-congested airlanes and more automobiles onto highways that are obsolete before the concrete is dry.

The fact is, the urban transit program is already in trouble, despite what seemed to be gilt-edged guarantees written into the Urban Mass Transportation Act of 1970; and the bill creating the National Railroad Passenger Corp. was in trouble the day it was signed.

The mass-transit act stated the "intent" of Congress to invest $10 billion, over 12 years, into the movement of people within metropolitan areas. But what made this bill significant was that it authorized the Department of Transportation actually to obligate $3.1 billion over the first five years.

DOT Secretary John A. Volpe and UMTA Administrator Carlos Villarreal prudently decided to obligate only $850 million in fiscal '71. Then Congress exercised its prerogative of limiting obligations, and imposed a $600-million first-year restriction.

Now there are disquieting reports that the Office of Management and Budget in the White House may impose a further restriction—one say the figure may even be cut in half.

While $600 million is, in our view, far from sufficient (it is the unt of money that is being invested in highways every 15 days), uld nonetheless be a good start. But half of that amount would le more than the $214 million that was authorized before the ublicized Act of 1970 was passed.

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J F M A M J J A S O N D

Source: Association of American Railroads

Assigning priority in RR research

(Continued from page 35)

mode. From the standpoint of fuel economy and low emissions of pollutants per ton-mile the industry serves a very important role in the national interest. As we examine the transportation industry in the United States, issues other than those that currently dominate our thinking are going to come into play

information resources in transportation, could be supported by government and by the railroad industry in creating such a center. Unfortunately, government funds are not available to permit such support and my funds are too limited to create the center independently.

The National Academy has a highway research information service, a maritime research information service, and a transportation noise information service, but it has no railroad research information service. These three services are supported by government. I think it's desirable and necessary that

center that will keep track of what's gone on in railroad research and be prepared to answer questions from people who need to know what has transpired in the past.

Q. Has any progress at all been made in establishing such a center?

A. A plan has been developed for government-industry cooperation under the administration of the academy and a proposal has been made to the government, but so far the lack of funds has prevented the government from support-

Market Outlook

CARLOADINGS

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Commodity	Dec. 26 week	Dec. wee
Grain	20,151	26,0
Farm products	16,045	22,4
Metallic ores	20,919	25,6
Coal	79,015	115,3
Crushed stone, gravel & Sand	17,245	23,5
Nonmetallic minerals	6,934	8,7
Grain mill products	15,430	19,4
Food & kindred products	20,432	25,1
Primary forest products	18,494	24,4
Lumber & wood products (except furniture)	11,727	14,1
Pulp, paper & allied products	17,889	22,5
Chemicals & allied products	20,379	26,0
Petroleum products	8,977	10,3
Stone, clay & glass products	12,294	16,8
Coke	7,094	9,3
Metals & products	18,330	23,3
Motor vehicles & equipment	15,787	23,1
Waste & scrap materials	10,224	13,7
Forwarder & shipper assn. traffic	4,142	5,4
All other carloads	49,602	62,6
LCL traffic	415	5
Total cars loaded	391,525	519,1

CUMULATIVE TOTAL, 52 weeks	1970	1969	1968
	27,160,247	28,237,407	28,252,5
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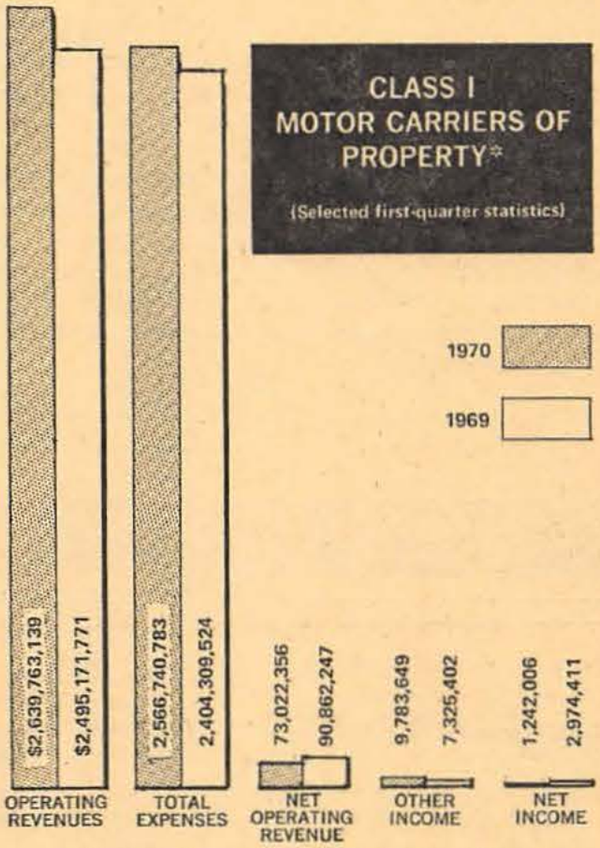
CLASS I MOTOR CARRIERS OF PROPERTY*

(Selected first-quarter statistics)



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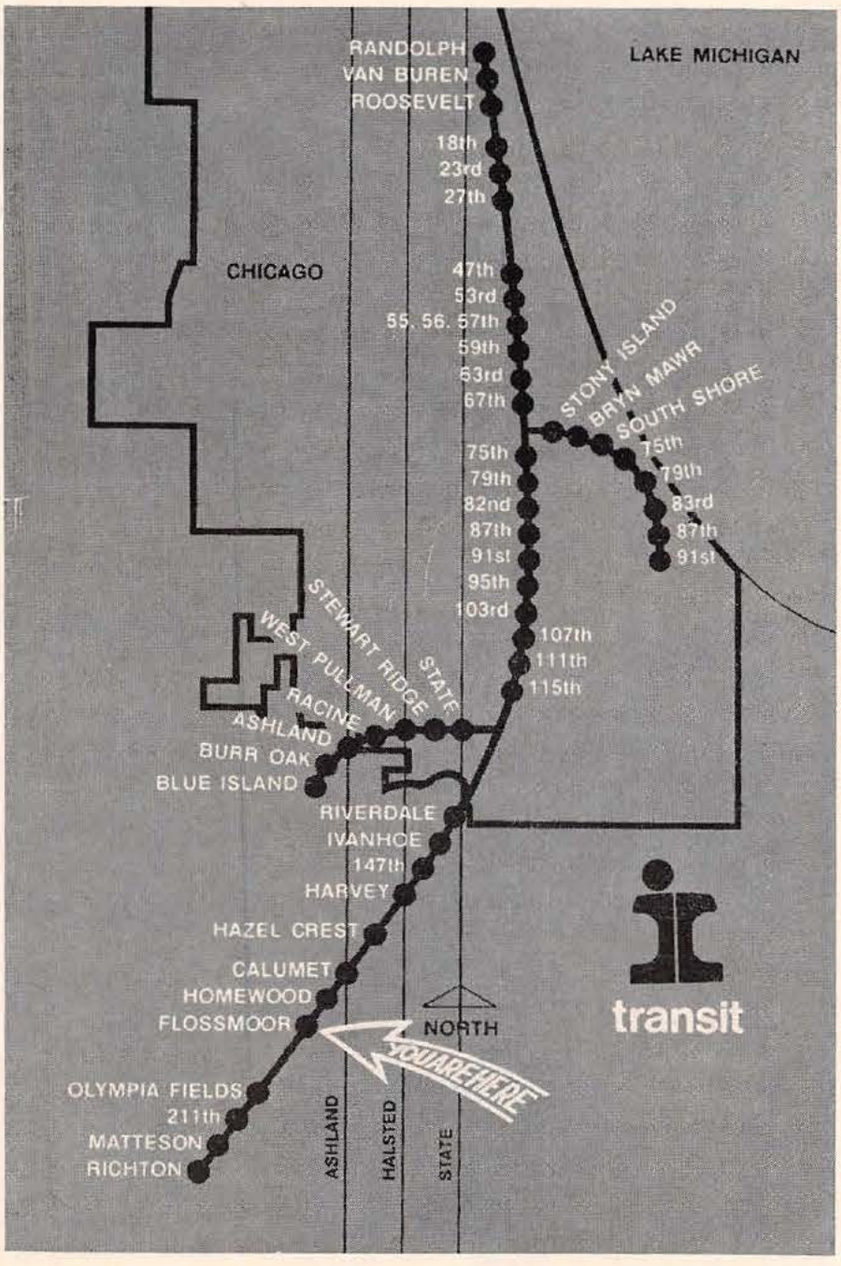
New Products Report (Continued from page 52)



Transit route signs (RA-9)

Passenger transit route signs made of fiber-glass-reinforced plastic are said to be scratch resistant, shatterproof, weatherproof and non-fading. Called EMBRO, the signs may be used as station and platform direction signs as well as car identification and name signs.

The message (map and station names), is embedded within the layers of fiber glass and resin becoming an integral part of the panel where it is protected from damage. The EMBRO sign is semi-rigid and does not bend out of shape like metal, yet it is flexible enough to be easily secured to curved surfaces. The signs do not dent, chip, nor become brittle, shrink, or crack with age.

EMBRO resists vandalism. Crayons, felt markers and paint wash off easily with solvents such as MEK with no adverse affect to the sign surface. The sign shown in the photograph is 12 in. by 14 in., but signs are available in any size up to 4 ft by 12 ft. Thicknesses are 3/32 in. and 1/8 in., depending on size. The signs also can be made translucent for backlighting. *Kemlite Corp.*

Microwave system (RA-10)

The all-solid state MS-218 - a third generation 2-GHz microwave radio relay system features: mean time between failures of 9100 hours per transmitter-receiver combination, five watts transmitter power, and built-in metering for simplified system checkout and maintenance.

The MS-218 meets industry objectives for 600-channel loading under short- and medium-haul requirements. It can serve either as a voice and data system or as a driver for scatter propagation systems. The MS-218 is available in non-standby, hot-standby, and diversity configurations. *Collins Radio Co.*

I/O data system (RA-11)

A unique data origination system is for keyboarding data for direct input to third-generation data processors. With the new system, any user of conventional magnetic tape drives can produce input at speeds substantially faster than the keypunch/verifier operation.

The 4301 magnetic data recorder—the system's basic unit—is a self-contained, free-standing operator work station consisting of a keyboard, a display console and a magnetic tape deck which produces and also verifies high-density, computer-compatible magnetic tape for immediate computer entry.

When used with a pooling adaptor, the 4301 can be the central unit in which several operators can enter records to the 4301 tape deck from other 4301s or from the 4302 magnetic data keyboard. Up to eight workstations can be accommodated, and the 4301s can be intermixed in any combination.

The 4303 magnetic data central pooler, can be the basis of a larger pooling system. Up to 16 operators can key information from 4301s and/or 4302s to the 4303 central pooler.

If an even larger configuration is needed, the 4304 magnetic data central pooler can accommodate up to 64 remote terminals. *Friden Div. Singer Co.*

the cost of one day's concrete-pouring.

IT'S UP TO THE WHITE HOUSE

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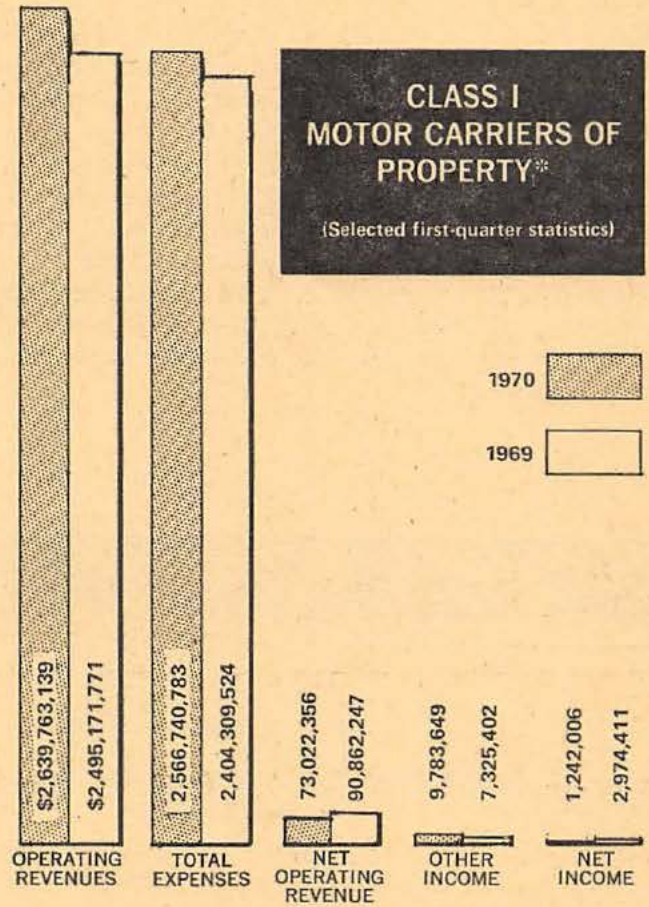


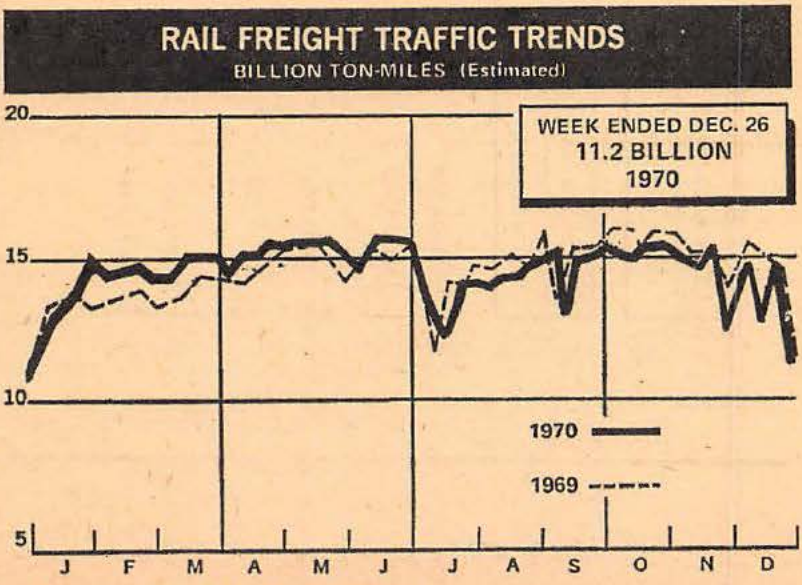
*Carriers with operating revenues of $1,000,000 or more.

Source: Bureau of Accounts, ICC. Based on reports of 1,379 intercity carriers.

ects will be construction of a 4,000-ft bridge and yard improvements at Spokane, and construction of a new classification yard at Minneapolis. Largest single cash expenditure for roadway improvements will be for new rail "required to upgrade lines which are carrying heavier traffic because of changes in traffic patterns resulting from merger."

● *Norfolk & Western.*—Will invest $100 million in capital improvements in 1971. Of this amount, approximately $30 million will be spent to construct lines into new coal mines. The equipment program calls for 100 new diesel locomotives and 2,700 freight cars, including 2,254 coal hoppers. In 1970, N&W acquired 75 diesels and 3,886 freight cars, of which 2,640 were coal hoppers. The company also rebuilt 125 cars in 1970.

● *Santa Fe.*—Railway capital expenditures in 1971 will total approximately $90 million. Major items authorized are acquisition of 2,623 freight cars and 15 road freight diesel-electric units; rebuilding and conversion of 12 units for road-switcher service; installation of 297 track miles of continuous welded rail; construction of new TOFC/COFC facilities at Houston and Clovis N.M., and improvement of existing facilities at Chicago and Kansas City, Kans.; various improvements to microwave and signal systems; and installation of ACI scanners at Kansas City. Santa Fe will also continue its extensive freight-car repair, upgrading and construction programs at Topeka, Kans., company shops.



Source: Association of American Railroads

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Primary forest products	18,494	24,447
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Stone, clay & glass products	12,294	16,823
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Metals & products	18,330	23,348
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FREIGHT-TRAIN CARS

● *Trailer Train.*—Ordered 81 standard-level cars in December as follows: 40 from Bethlehem Steel and 41 from Pullman-Standard. TTX ordered a total of 3,920 cars in 1970.

● *Orders and deliveries.*—Orders were placed for 8,164 new freight cars in November 1970, compared with 3,053 in the preceding month and 8,264 in November 1969. New cars on order and undelivered on Dec. 1 totaled 23,644, compared with 43,460 on Dec. 1, 1969.

FREIGHT TRAIN CARS ORDERED AND DELIVERED IN NOVEMBER AND BACKLOG OF ORDERS

DELIVERED

	Nov. 1970	Oct. 1970	Nov. 1969
Built new by car builders	3,573	3,787	4,941
Built new in R. R. shops	996	888	1,332
Built new—total	4,569	4,675	6,273
Rebuilt	1,129	1,244	527
TOTAL DELIVERED	**5,698**	**5,919**	**6,800**

ORDERED

To be built new by car builders	8,026	2,516	3,456
To be built new in R. R. shops	138	537	4,808
To be built new—total	8,164	3,053	8,264
To be rebuilt	1,100	418	0
TOTAL ORDERED	**9,264**	**3,471**	**8,264**

ON ORDER AND DELIVERED

	Dec. 1970	Nov. 1970	Dec. 1969
To be built new by car builders	20,802	16,349	35,361
To be built new in R. R. shops	2,842	3,700	8,099
To be built new—total	23,644	20,049	43,460
To be rebuilt	3,560	3,589	3,837
TOTAL ON ORDER	**27,204**	**23,638**	**47,297**

CAPITAL EXPENDITURES

● *Burlington Northern.*—Capital expenditures budget for 1971 totals $104.4 million, including $77 million for new equipment. BN will acquire 100 3,300- and 3,600-hp road-freight diesel-electric units, and 1,471 freight-train cars (600 100-ton covered hopper cars, 300 100-ton open-top hopper cars, 235 gondolas, 75 Airslide covered hopper cars, 150 woodchip cars, 50 bulkhead flat cars, 10 pressure differential cars, four high-cube box cars and 47 cabooses). Orders for the 600 covered hopper cars (including 200 cars for Colorado & Southern) and the 150 woodchip cars have been placed with Gunderson, Inc., at a total cost of more than $11.6 million. BN will also schedule heavy repairs for 3,950 freight cars at company shops at St. Cloud and Brainerd, Minn., Lincoln, Neb., Laurel, Mont., and Spokane and South Tacoma, Wash. Principal fixed-plant proj-

Viewpoint

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As for the Railpax Act, which would turn intercity passenger trains over to a much-hailed quasi-public corporation, there is no getting around the fact, despite all the hailing by passenger-train partisans, that it provides a direct Federal grant of only $40 million—less than the cost of one day's concrete-pouring.

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Advertisers Index

Abex Corporation 12-13
ACI Systems, Inc. 16
American Steel Foundries 6
ASEA ..... IFC

Brenco Incorporated 39
Buckeye Steel Castings 21

Daido Steel Co., Ltd. 57

Electro Motive Division of General Motors Corp. 30-31

General Cable Corp. 4
General Railway Signal Co. 41

Hayes Track Appliance Co. 42
Humble Oil & Refining Co. 48-49

International Car Corp. 43
International Nickel Co., The 9

Kerite Company, The ..... IBC

Lenkurt Electric Company 10

Matisa Equipment Corp. 11
Monogram Industries, Inc. 46

Rails Company, The 45
R C A Rubber Co., The 45
Rockwell Manufacturing Co. ..... BC
Rohr Corporation 3

Safety Electrical Equipment Corp. 50
Speno, Frank 45
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Vapor Corporation 14

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VIEW FROM THE STREET

The value of public relations

Selling the ASTRO report depends in large measure on how effectively railroads present their case to the public. Last summer I had the pleasure of addressing the Railroad Public Relations Association. Some of my thoughts (slightly edited and updated) may still be relevant.

To the professional analyst of railroad securities, one of the most puzzling and distressing features of our business is the failure by many rail management teams to comprehend the profit potential of good public relations. It is appalling to find that the railroad advertising budget has remained virtually unchanged over the past decade. Allowing for inflation this represents a 30-40% reduction in the volume of advertising performed. It is equally upsetting to learn from legislators at all levels of government that the railroad industry has failed to sell its story—which is a good one, by the way—and sometimes doesn't even bother to get in touch at all, much less on a regular basis.

To a large extent, I believe this failure reflects a serious "perception gap" on the part of top management. Advertising and representational expenses always seem to be the first items cut when business turns down. This very fact blunts or negates the cardinal rule of any public relations effort: consistent repetition of a point of view. The first effort, then, must be to convince your own management team that your budget and staff is a critical item in the success—indeed survival—of your road, just as important as locomotive fuel and new rails. Management will believe this only if you can convince them there is a direct relationship between the total public relations effort and profits.

It seems to me that railroads have a basic, serious, long-term communications problem. In the day-to-day business of advising clients about the purchase and sale of railroad securities, and of writing objectively about them, and of acting as a financial advisor to several railroads, I come up against a hard, uncompromising and deeply distressing fact: The railroads have a lousy image.

The railroad "image problem" is a serious one, which has a very measurable impact on my side of the business. Railroad equity is nearly unsaleable as a new issue, because no one has any faith in its future. Except for three small rights offerings, it has been some 14 years since a public offering of rail shares has been made. It has become desperately hard to sell rail bond issues, at least at competitive rates. It is difficult, though not impossible, to persuade institutions to take positions in existing rail stock issues. Why? Because all they ever hear from the railroads is a constant stream of press releases complaining about the industry's problems and the many (very real) injustices it suffers at the hands of practically everyone. Who needs, they ask me, an industry that has only problems?

Not one state or Federal legislator to whom I have spoken has anything good to say about the industry. This strikes me as a dangerous thing for a regulated industry which already suffers under the burden of unjust and restrictive laws. If you can't sell yourselves to the people who have the power of life and death over your business, you're in trouble.

The public—and the unions

Then there is the general public, to whom after all the legislators are responsible, and whose attitudes inevitably spill over to the individuals who make investment decisions. At best there is benign indifference. On the part of most, particularly suburban and rural residents, there is a varying degree of hostility ranging from irritation to pathological hatred. The historical image of the railroad as the vicious monopolist grinding down the poor has not been dimmed by time. Overcoming or correcting this image is perhaps your biggest single problem.

Then, of course, there are the unions. If you resolutely hammer at the line that the industry is nearly bankrupt and that there is no future to it and that it's all someone else' fault—we can't do anything about our problems—then I do not see that the Brothers have any choice but to dig in their heels and fight for the status quo. Everyone knows that bankruptcy freezes the labor side—it is management and the stockholders who lose—so why worry about it. The retroactive pay provisions affecting the Penn Central underline this point. If it is a dying industry, senior men can hang on.

But just suppose, just once, that the industry tried to sell the concept that it can increase employment opportunities if it can improve service, and that it can do this only if concessions are made on work rules. There isn't a man alive who wouldn't rather work for a growing industry than a dying one—it gives him a chance to advance faster, and obtain higher wages.

How do you attack the problem? I'm sure I don't have all the answers, or even very many of them. But here are some possibilities.

Make your advertising relevant and believable. Go hire Johnny Cash to sing an old ballad and say a few kind words about the railroads. He is a railroad person, and everyone has an immediate, good association.

Advertise regularly, in local papers as well as in the larger ones—an ad means more to a weekly or small daily. Maybe the editor will think about ad revenues for a minute and not write the weekly editorial attacking the Podunk Center & Western. Don't underestimate the value of sheer repetition in the television game. Don't waste dollars on prime time—but try to get 20 seconds every hour to have a quick message about the good guys. That's us!

Emphasize the strong points. Let's tell the world how railroads have cut the cost of living—rail rates are lower now than in 1958, while truck and barge and airfreight rates are up. Who is doing the best job of fighting inflation? We are!

The nationalization bugaboo is one which deserves more than passing attention. American railroads contribute nearly $600 million annually to Federal, state and local taxing authorities. After absorbing a huge passenger loss they also contribute over $500 million annually to the nation's net profits. The nationalized rail networks of Britain, Germany, Japan and France together approximate the size of the U.S. railway system. Not one of the four makes a profit. Collectively, they lose over $1.4 billion annually. No politician in his right mind is going to trade a contribution to the national economy of over $1.1 billion for a loss of $1.4 billion, if he knows what nationalization would actually cost. Let's make sure every politician gets the message. Right now.

Use the rail fans. Regular contact with their leaders is worth the effort. And it should be initiated by the railroad, from the highest possible level. And don't be ashamed to explain and ask for their help on legislative and regulatory matters. They're never bashful about their projects.

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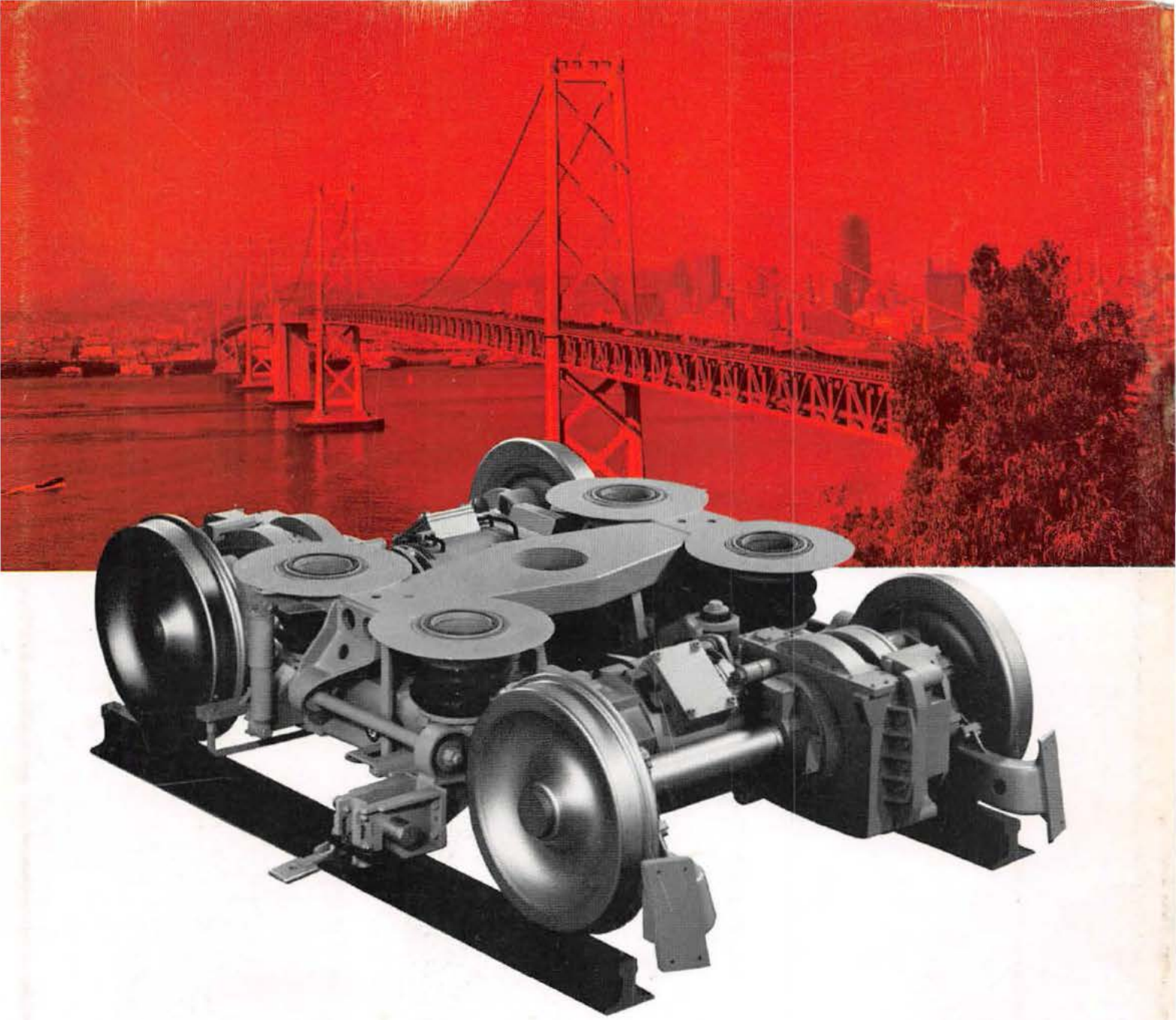

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